User guide

891072 **| GB |**

TDX Headend Unit - 492090

TRIAX - your ultimate connection

Rev. 05 - 2011 - C

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Safety precautions

Environment

Operating temperature from -10 C to +50 C.
Storage temperature from -20 C to + 70 C.
Max. operating humidity 80% (RH).
Max. storage humidity 90% (RH).

Power supply

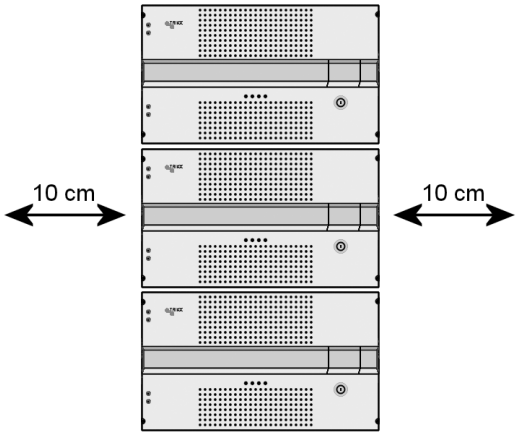
The input voltage must be 190-264 VAC. ~ 45/65 Hz / 280 W (Max).
Use only power connections installed by professionals.

Earth

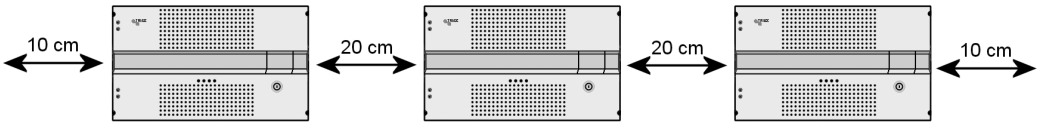
Every unit in your headend system must be earthed by connecting it to the ground with a wire according to the electrical regulations of your country.

Ventilation

The way you position the headend units must leave a minimum of 10 cm on each side of the units for ventilation.



If you position the headend units side by side, the distance between the units must be at least 20 cm.



Disposal

Within in the European Union this label indicates that the product cannot be disposed of with the general household waste.
Neither the headend nor the input and output modules can be disposed of with the general household waste.
For proper treatment and recycling of old products, please take them to designated collection points in accordance with your national legislation.

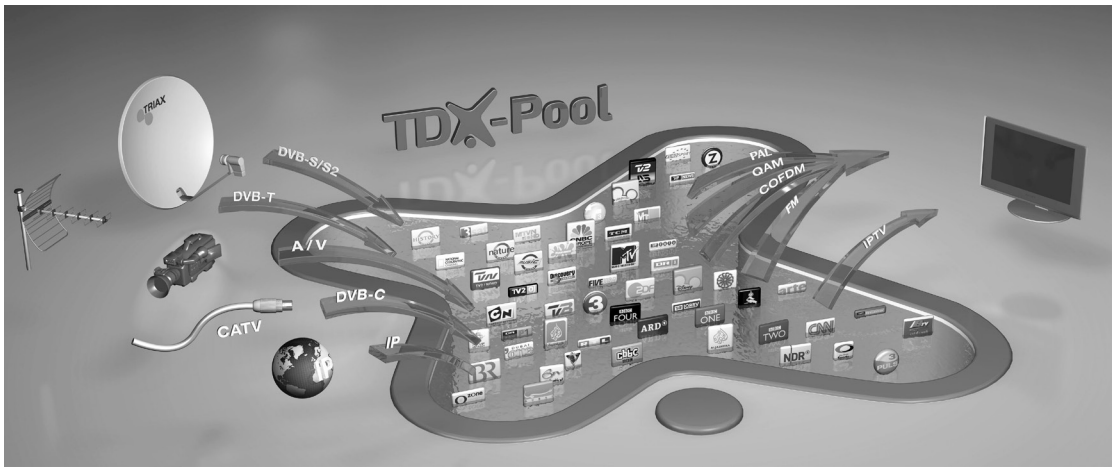
Introduction

Introduction

With the TDX headend system, Triax introduces the TDX-pool which provides you with the full freedom of assigning services from any input to any set of output modules.

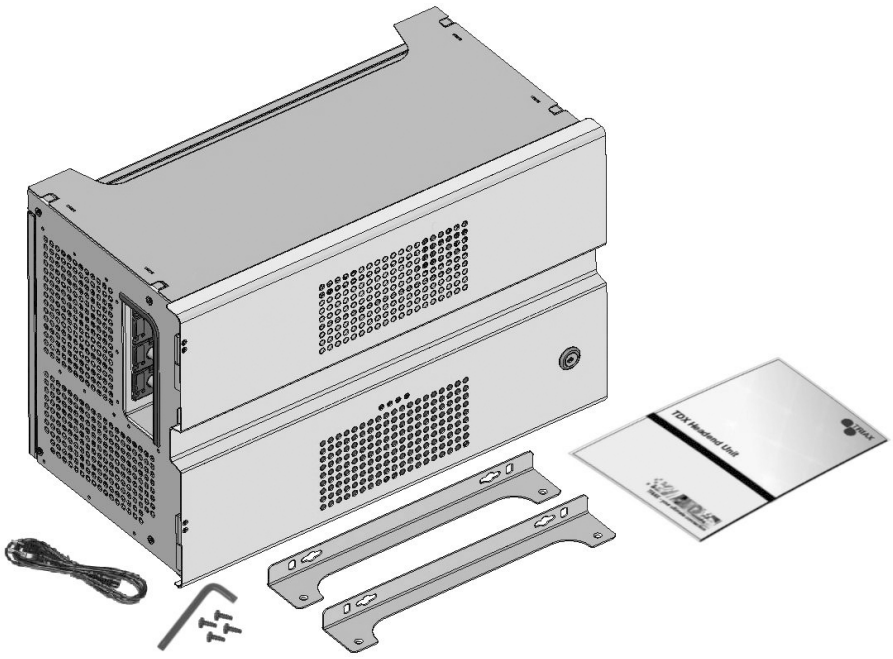
All incoming signals from input modules initially arrive in the TDX-pool. From this pool they can be converted into any output signals you require while simultaneously being fed to several different output modules. Besides, the configuration of input and output modules can be readily changed at any time.

The ability of converting any input signal to any output signal makes the TDX headend system uniquely flexible, efficient and economical.



Box content

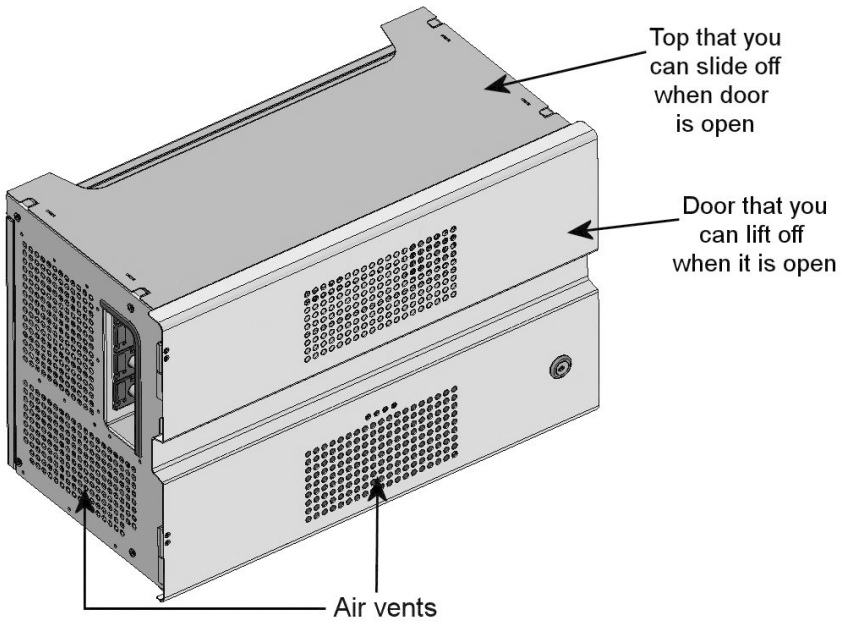
Included in the box you will find the TDX headend unit, key, brackets, Torx® key, screws, a power lead and a user guide.



Everything you need to do in connection with the headend unit you can do from the front of the unit.

Unit - exterior

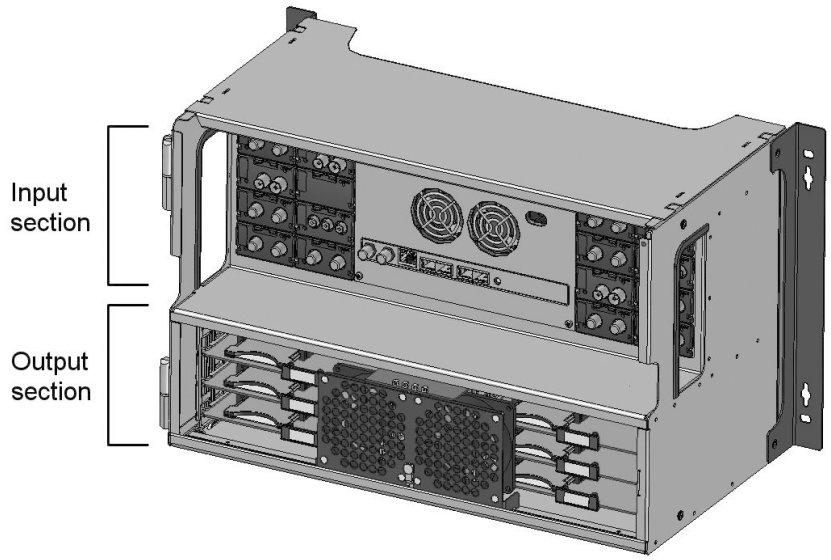
In order to make it easy for you to work with a TDX headend unit you can remove the door and the top from the unit.



Note Before you leave a headend system, the extractor fan in the output section must be clicked into place in the middle of this section and the door must be closed due to heat and EMC.

Unit - interior

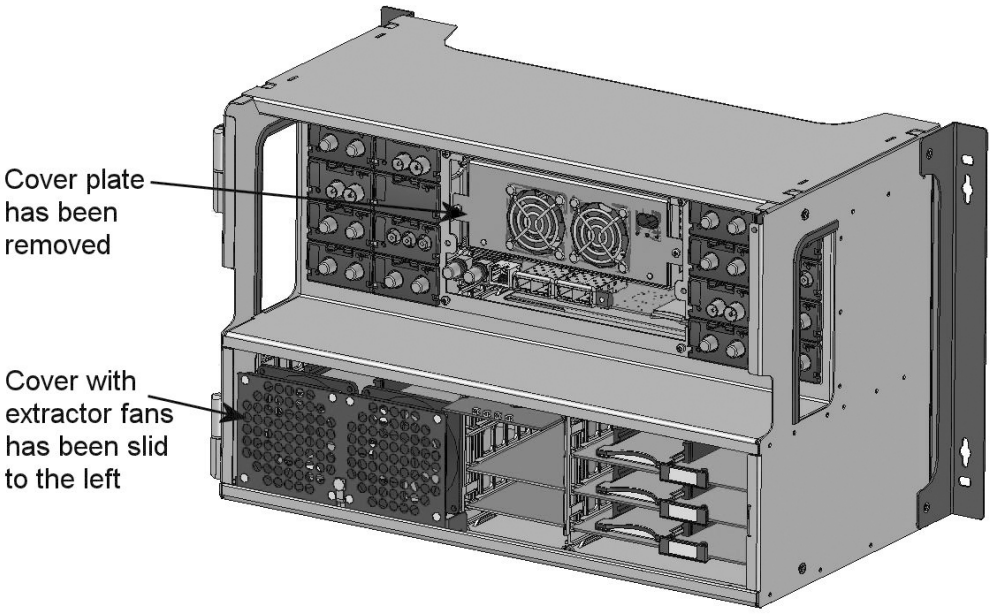
Inside the TDX unit the interior is divided into two parts, an upper part - input section - containing all the input modules, and a lower part - output section - containing all the output modules.



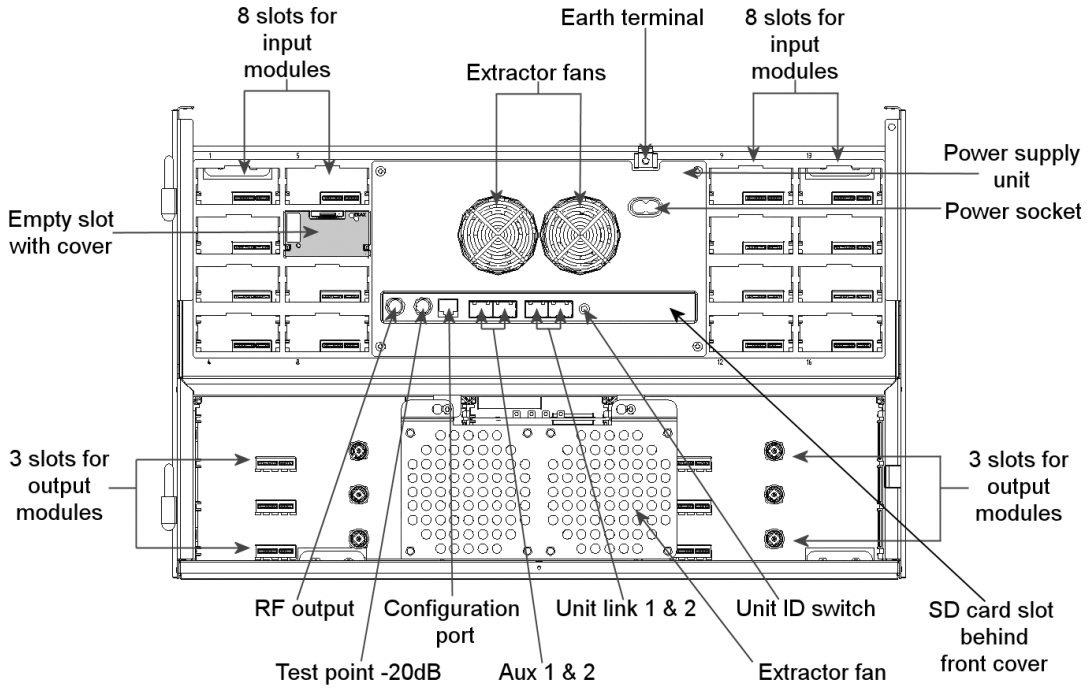
In the input section covers are used to protect all module slots.
For EMC reasons only remove covers from the module slots that you want to insert modules into.

Extractor fans have been placed in both the input section and the output section of the unit to prevent the unit from overheating.

In the output section you can slide the cover with the extractor fans from one side of the output section to the other when you want to install or replace output modules.



Below you can see an empty headend unit without the front and top.



RF output — Distributes the RF channels from the output modules using an F-connector.

Test point -20 dB — RF test point of output (-20 dB).

Note When you attach F-connectors to the RF output and Test point sockets you have to be very careful when you tighten the F-connectors or you may destroy the sockets.

Configuration port — Ethernet configuration port for setting up the headend system. Connector type is RJ-45 and cable type is Cat5. Use a computer/laptop with the software recommended below to configure the system.

Recommendations:
Operating system: Windows XP or above.
Browser: Windows Internet Explorer version 6.0 or above.
Additional software: Microsoft© Silverlight Runtime version 3.0 or above.

Aux 1 & 2 — For future use.

Unit link 1 & 2 — Connects the main unit with subunits 1 and 2.

Unit ID switch — Switch for setting the ID of the main unit and the two subunits.

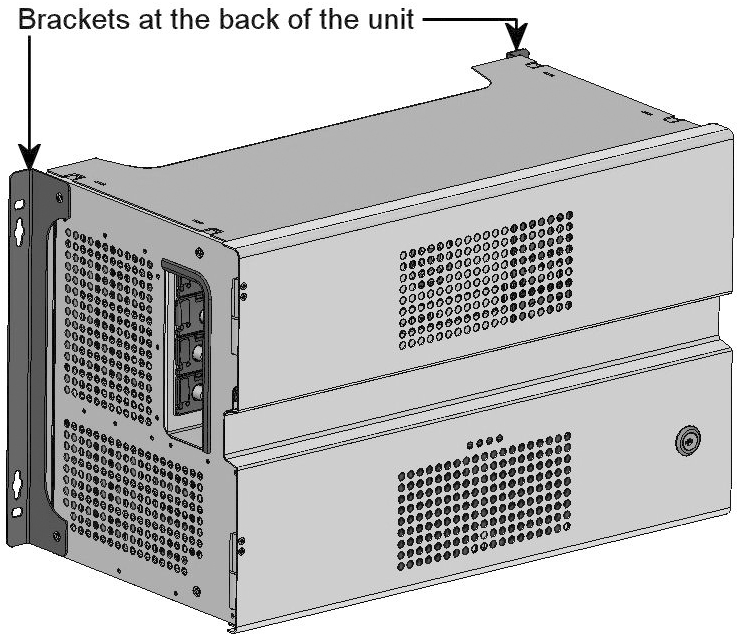
Secure Digital (SD) card — Memory card for storage of the system configuration. Placed in a slot behind the front cover.

Mounting the Unit

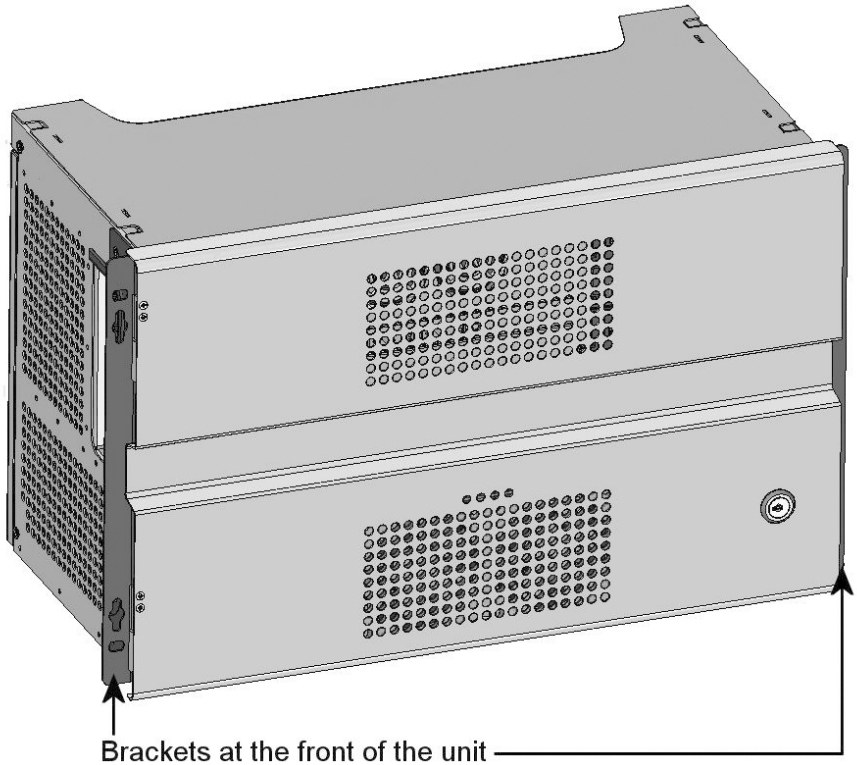
Mounting

Depending on whether you want to mount the headend unit in a rack or on a wall you have to position the brackets accordingly on the headend unit.

To mount the headend unit on a **wall**, screw the brackets to the back of the unit before you mount it.

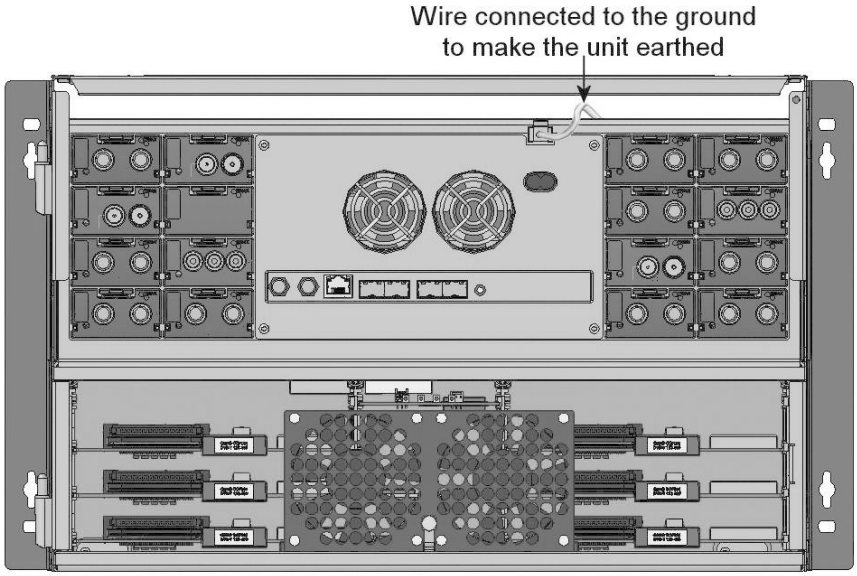


To mount the headend unit in a **rack**, screw the brackets to the front of the unit before you mount it.



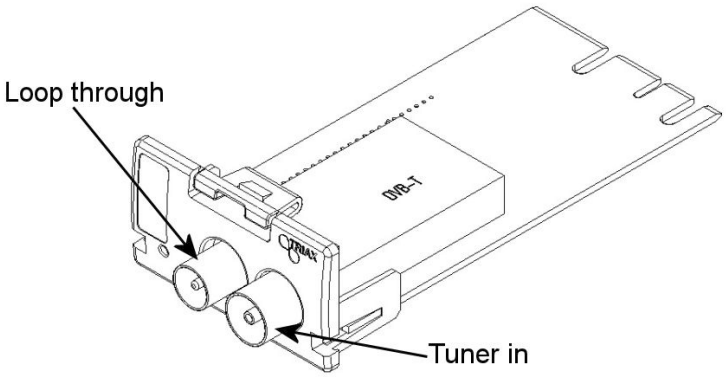
Earthing

The headend unit must be earthed before you install any modules, i.e. you have to connect each headend unit to the ground with a wire from the Earth terminal socket.



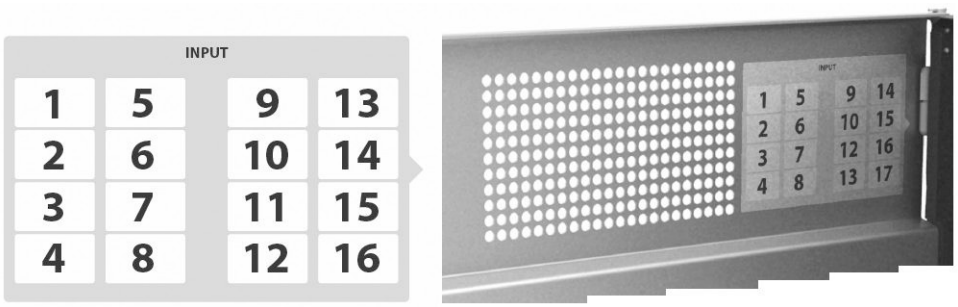
Input modules

It is possible to install up to 16 input modules in a headend unit.



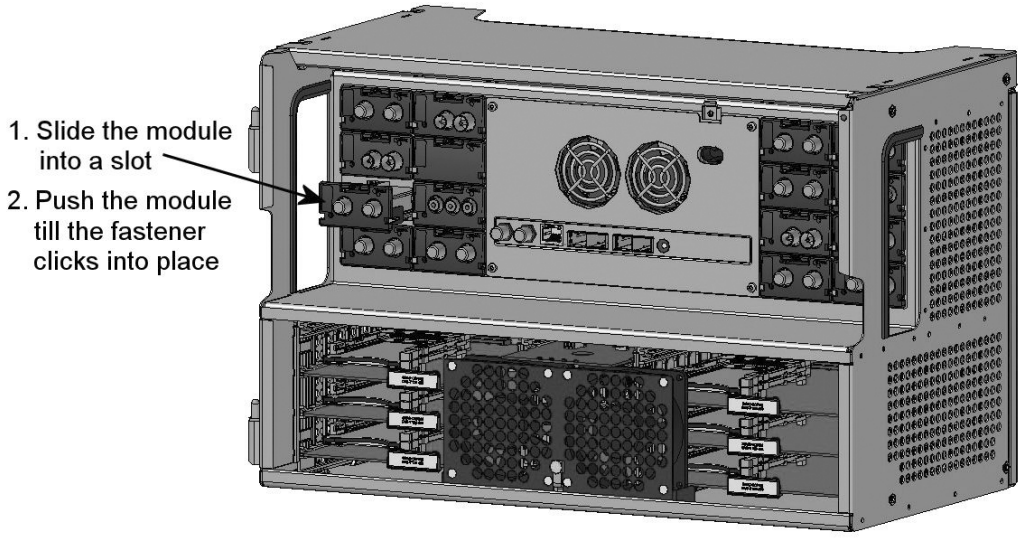
It is optional in which slots you place the individual input modules in the input section. For convenience each slot has been given a number. An overview of the slot numbers has been placed on the inside of the door of each unit.

Note Slot no. 1 is placed in the top left-hand corner of the input section when you face the front of the unit.

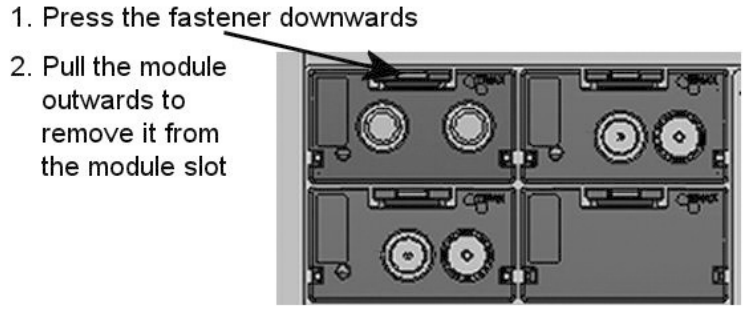


Input

You install an input module by sliding the module into a module slot in the upper section of the headend unit and click the module into place.

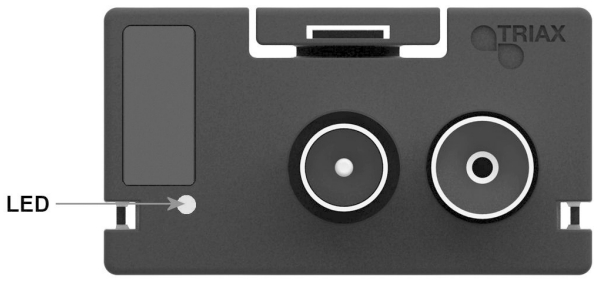


You can remove an input module from a module slot without using any tools, just use your fingers.



Each input module has a LED on the front to signal whether the module is locked or not to the frequency that it is set to receive at.

Green - flashing	The module has not been configured yet.
Green	No errors and the tuner is locked to the frequency.
Red	Error and the tuner is not locked to the frequency.
No colour	Power has not been switched on.



When you update the software of a module the status LED provides you with information about the updating process.

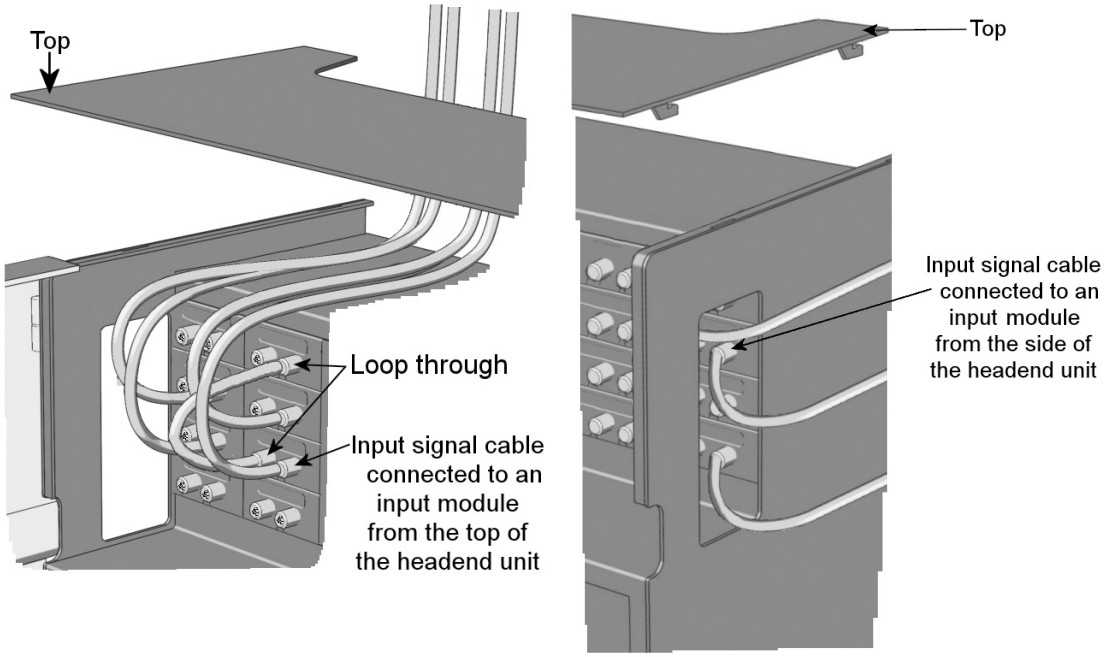
Orange	Boot loader state.
Temporary off	Initiation of the software update.
Temporary green	Every time the modules receives a valid data package. Repeated until the update is completed without errors.
Red	Software update failed.

A label is provided on the input module where you can write the information regarding the configuration of the module.
Besides the information that you write on the label, the module type and code number are also displayed on the label.

On one of the other sides of the module you will find a label with the bar code printed on it.

When all the required input modules have been installed you can connect the input signal cables one by one to the input modules. It is also possible to make a loop through from one input module to another using a cable.

When connecting the input signal cables you have to decide whether you want the cables to go from the top of the headend unit to the input modules or from the side of the unit to the modules.


Top
Loop through
Input signal cable connected to an input module from the top of the headend unit
Top
Input signal cable connected to an input module from the side of the headend unit

Output

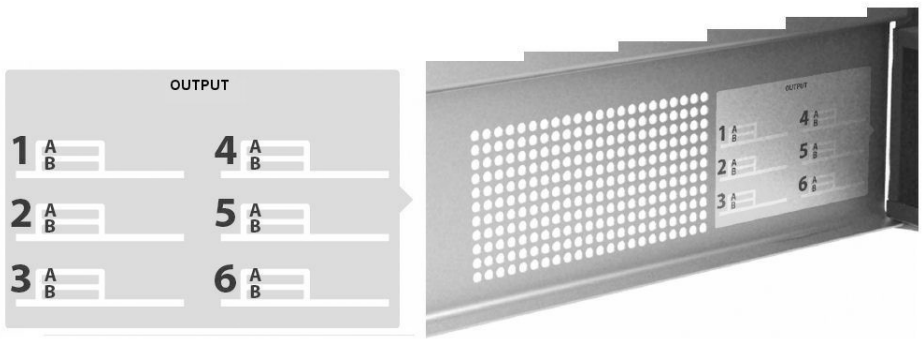
Output modules

It is possible to install up to 6 output modules in a headend unit. Each output module consists of 4 RF channels. Depending on the type of module you can add up to 2 CAM modules on each output module.

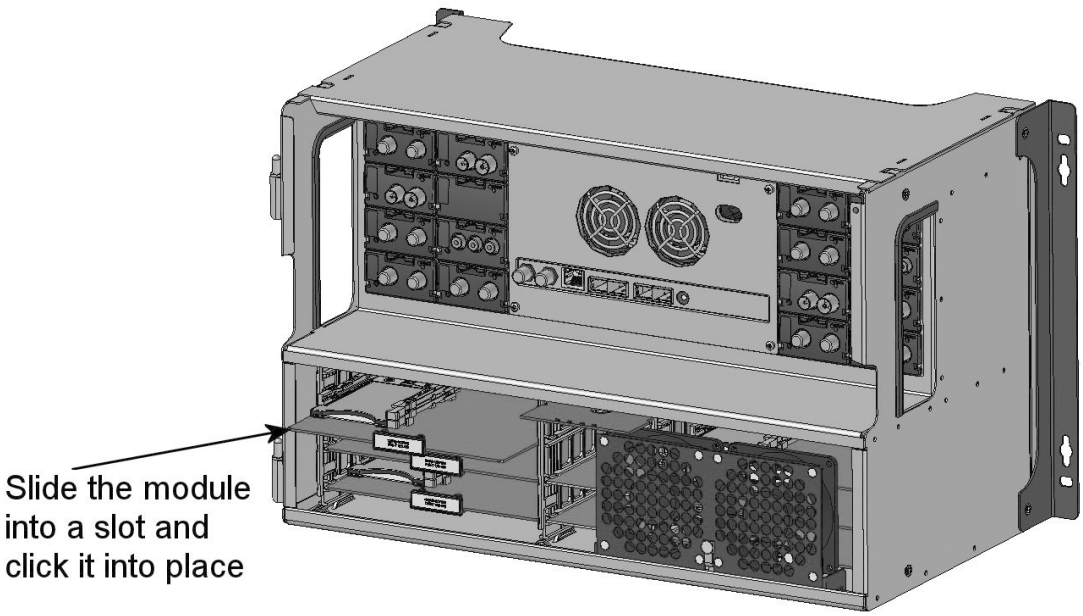
In the future it may also be possible to add an Aux module (for future options) to the output section.

It is optional in which slots you place the individual output modules. For convenience each slot has been given a number, and an overview of the slot numbers has been placed on the inside of the door of each unit.

Note Slot no. 1 is placed in the top left-hand corner of the output section when you face the front of the unit.

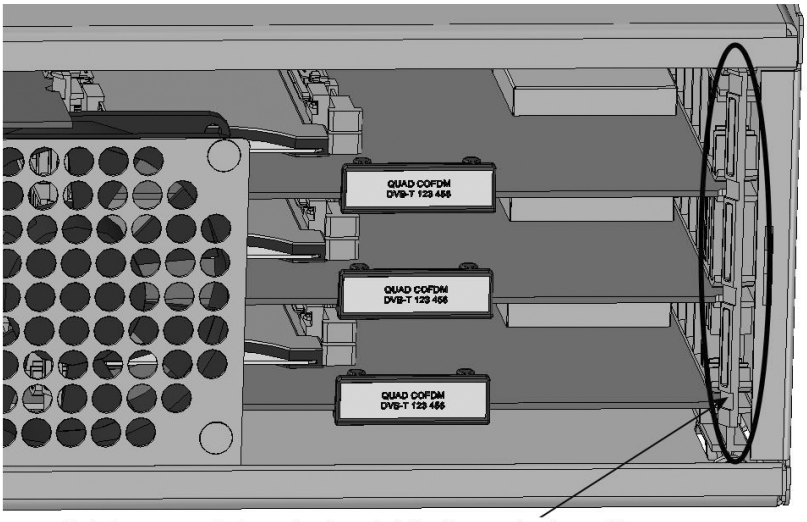


You install an output module by sliding it into a slot in the lower section of the headend unit and click it into place.



You release an output module from a slot by using the lock mechanism that is placed to the right of the modules in the output section.

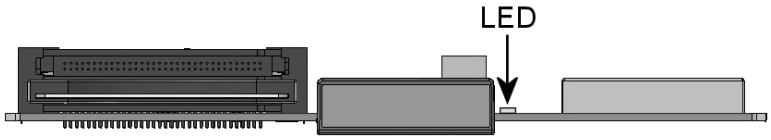
Move the lock mechanism slightly to release the module.



To take a module out of a slot in the output section, tip the lock mechanism and then pull the module out

Each output module has a LED on the front to signal whether the module functions according to its purpose.

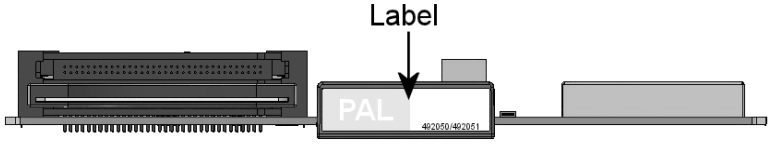
Green - flashing	The module has not been configured yet.
Green	No errors and everything is valid.
Red	Error.
No colour	Power has not been switched on.



When you update the software of a module the status LED provides you with information about the updating process.

Orange	Boot loader state.
Temporary off	Initiation of the software update.
Temporary green	Every time the modules receives a valid data package. Repeated until the update is completed without errors.
Red	Software update failed.

A label is provided on the output module where you can write the information regarding the configuration of the module. The module type and code number are printed on the label.

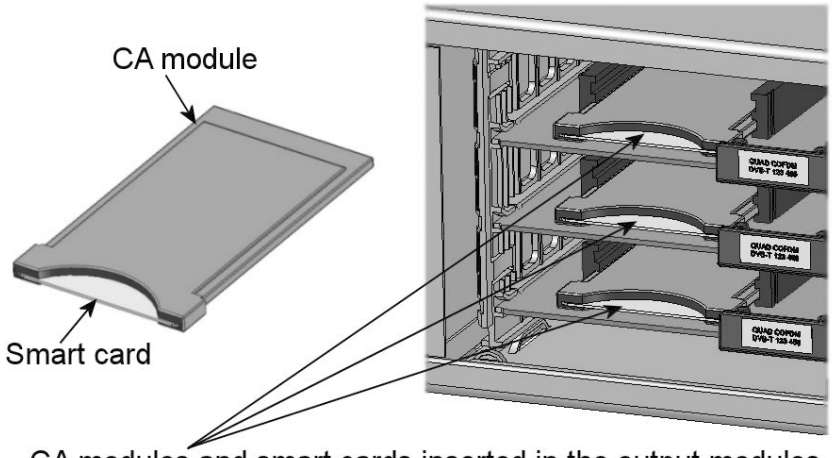


A label with the bar code, serial number and address printed on it is placed elsewhere on the module.

Output

CAM/Smart card

You can insert 2 Conditional Access modules (CA) into each of those output modules that have CI slots. Each CA module is able to unscramble at least one service. Which services depend on the service provider of the CA module and smart card.



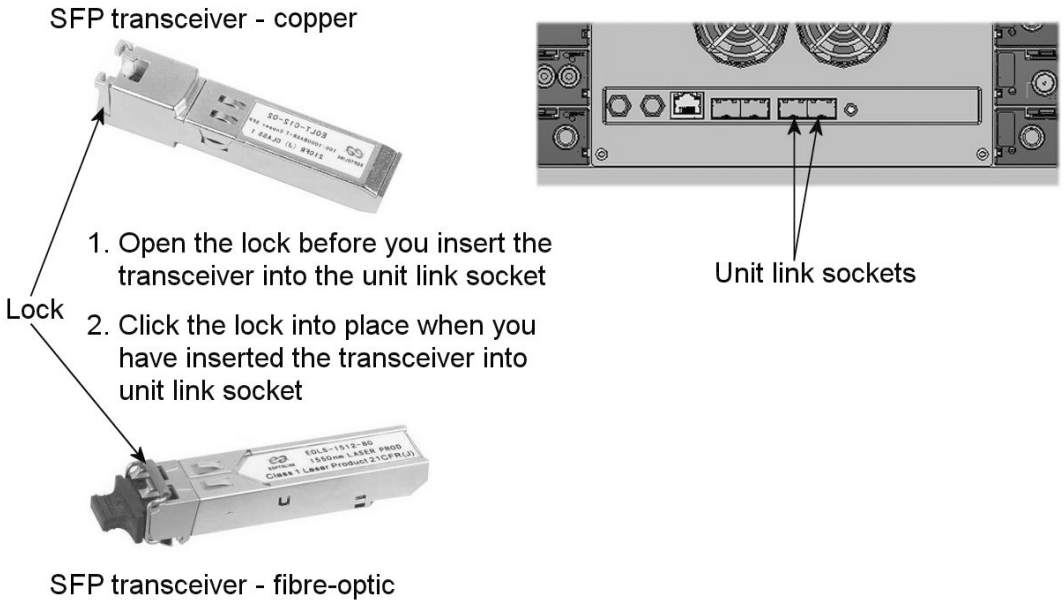
CA modules and smart cards inserted in the output modules

Small Form-factor Plugable (SFP)

Before you can connect the main unit with any subunits you have to insert SFP copper or SFP fibre-optic transceivers into the unit link sockets on both the main unit and the subunit/s.

When you insert an SFP transceiver into a unit link socket you have to open the lock mechanism on the transceiver before you insert it into the unit link socket.

Click the lock mechanism into place to lock the transceiver in the socket.


SFP transceiver - copper
1. Open the lock before you insert the transceiver into the unit link socket
Lock
2. Click the lock into place when you have inserted the transceiver into unit link socket
Unit link sockets

SFP transceiver - fibre-optic

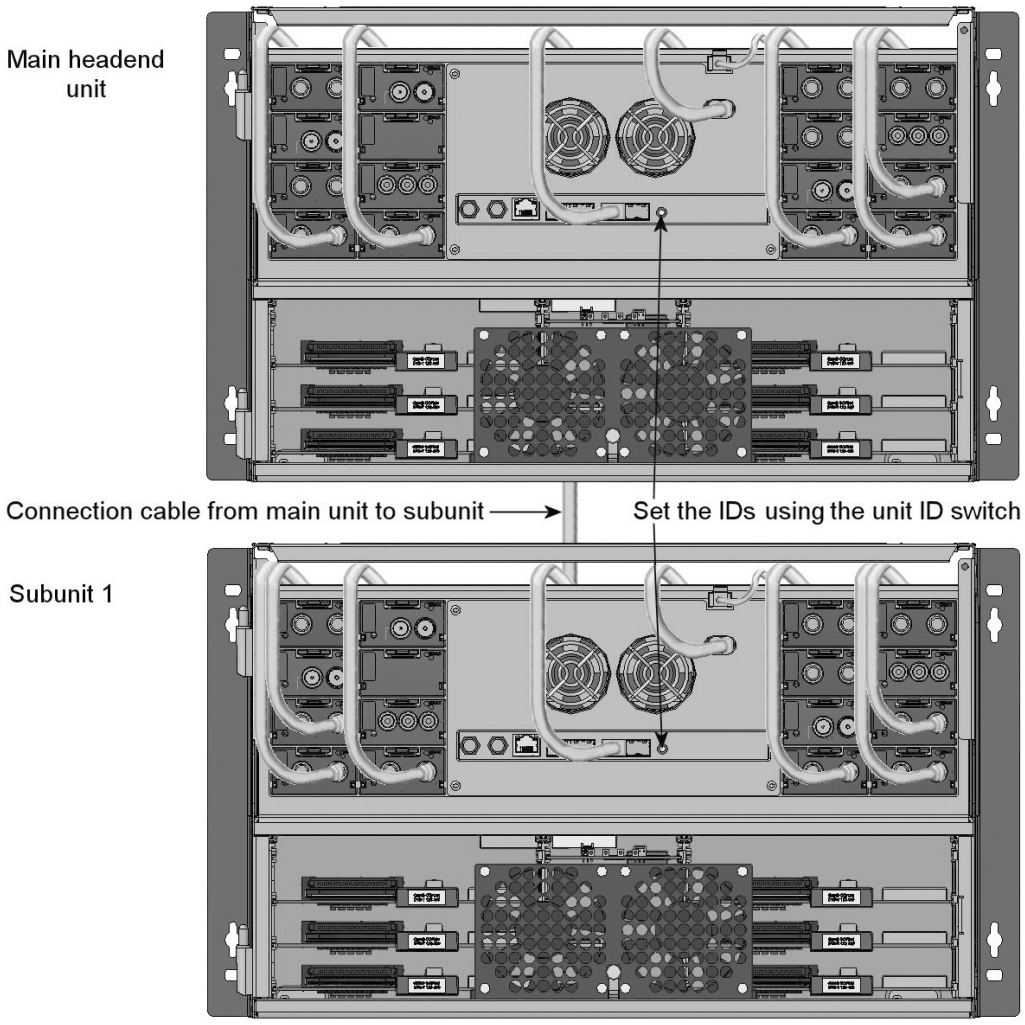
Note You also have to insert SFP copper or SFP fibre-optic transceivers into the unit link sockets on the main unit if you want to use the sockets to output services using an IPTV system.

Connecting units

To connect the main headend unit with one or two subunits you pull Cat5 cables (SFP copper transceiver) or 850 or 1310 cables (depending on the SFP fibre-optic transceiver) from one unit to another following the guidelines in the table below regarding the maximum length of the cables.

Part	Package	Data rate	Reach	Application
492086 EOLT-C12-02	Copper SFP (RJ45)	1000Mbps	100m	Gigabit Ethernet via Cat5 cable
492087 EOLS-8512-MXX	Fiber (850nm) (LC)	1000Mbps	550m	Gigabit Ethernet
492088 EOLS-1324_02XX	Fiber (1310nm) (LC)	1000Mbps	2km	Gigabit Ethernet

If you only connect one subunit to the main unit, you pull a cable from the “unit link 1” socket on the main unit to the “unit link 1” socket on the subunit.

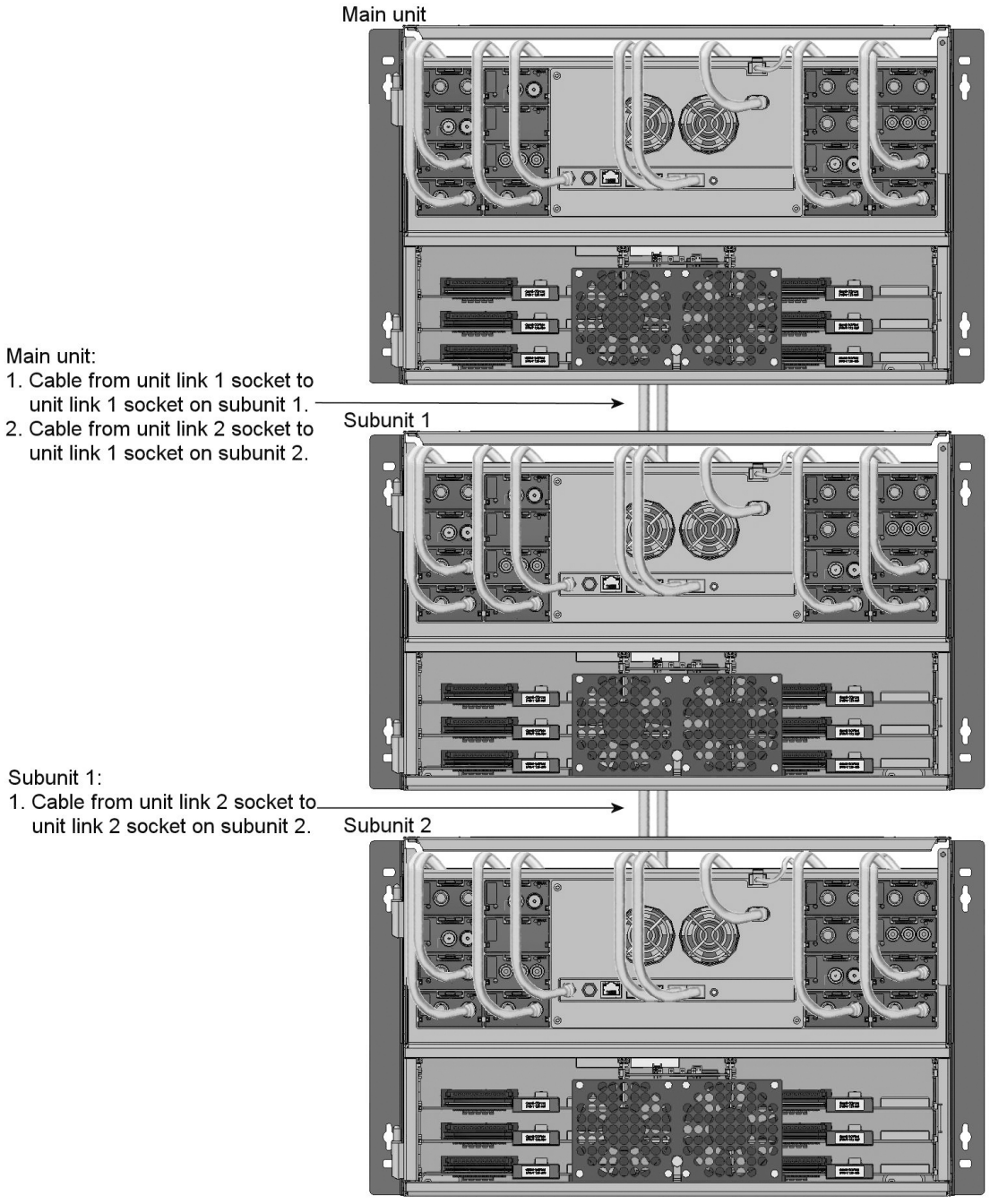


Connecting units

If you have to connect two subunits to the main unit, you pull a cable from the “unit link 1” socket on the main unit to the “unit link 1” socket on subunit 1.

Then you pull a cable from “unit link 2” socket on the main unit to the “unit link 1” socket on subunit 2.

Next you connect the first subunit to the second subunit using the “unit link 2” sockets on subunits 1 and 2.

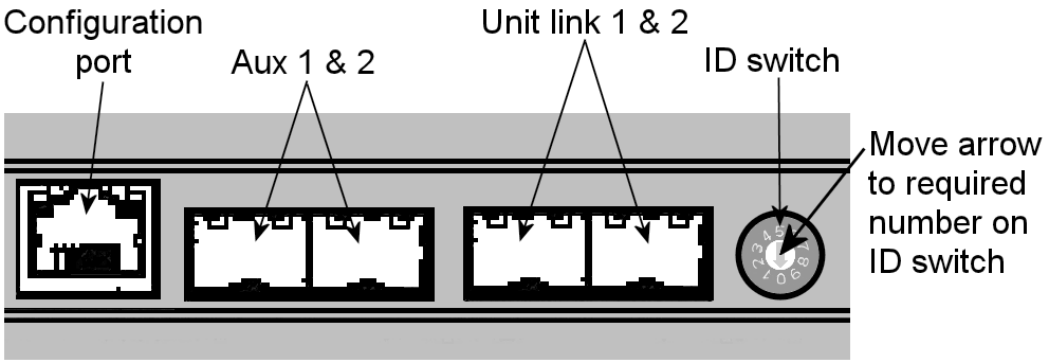

Main unit
Main unit:
1. Cable from unit link 1 socket to unit link 1 socket on subunit 1.
2. Cable from unit link 2 socket to unit link 1 socket on subunit 2.
Subunit 1
Subunit 1:
1. Cable from unit link 2 socket to unit link 2 socket on subunit 2.
Subunit 2

ID switch

When you have connected the main unit and the subunits, you have to set the IDs of the main unit and the subunits using the “unit ID switch” on the units.

You set the main unit to “0”, subunit 1 to “1” and subunit 2 to “2”.

You have to use a small screwdriver to move the arrow on the ID switch to the required ID number.



In case you need to reset the IP address of a headend unit, i.e. to return to the factory default address, you use the ID switch.

To return to factory default settings do the following:

- Switch off the power to the main unit.
- Set the ID switch on the main unit to “7”, then switch on the power. The four LEDs flash red and yellow until the process of resetting the IP address has been completed.

  If the reset process has been successful the LEDs will turn green.

  If the reset process fails the LEDs will turn red.
- Switch off the power to the main unit.
- Set the ID switch on the main unit back to the initial setting.
- Switch on the power to the main unit.

Now you have reset the IP address to the factory default address.

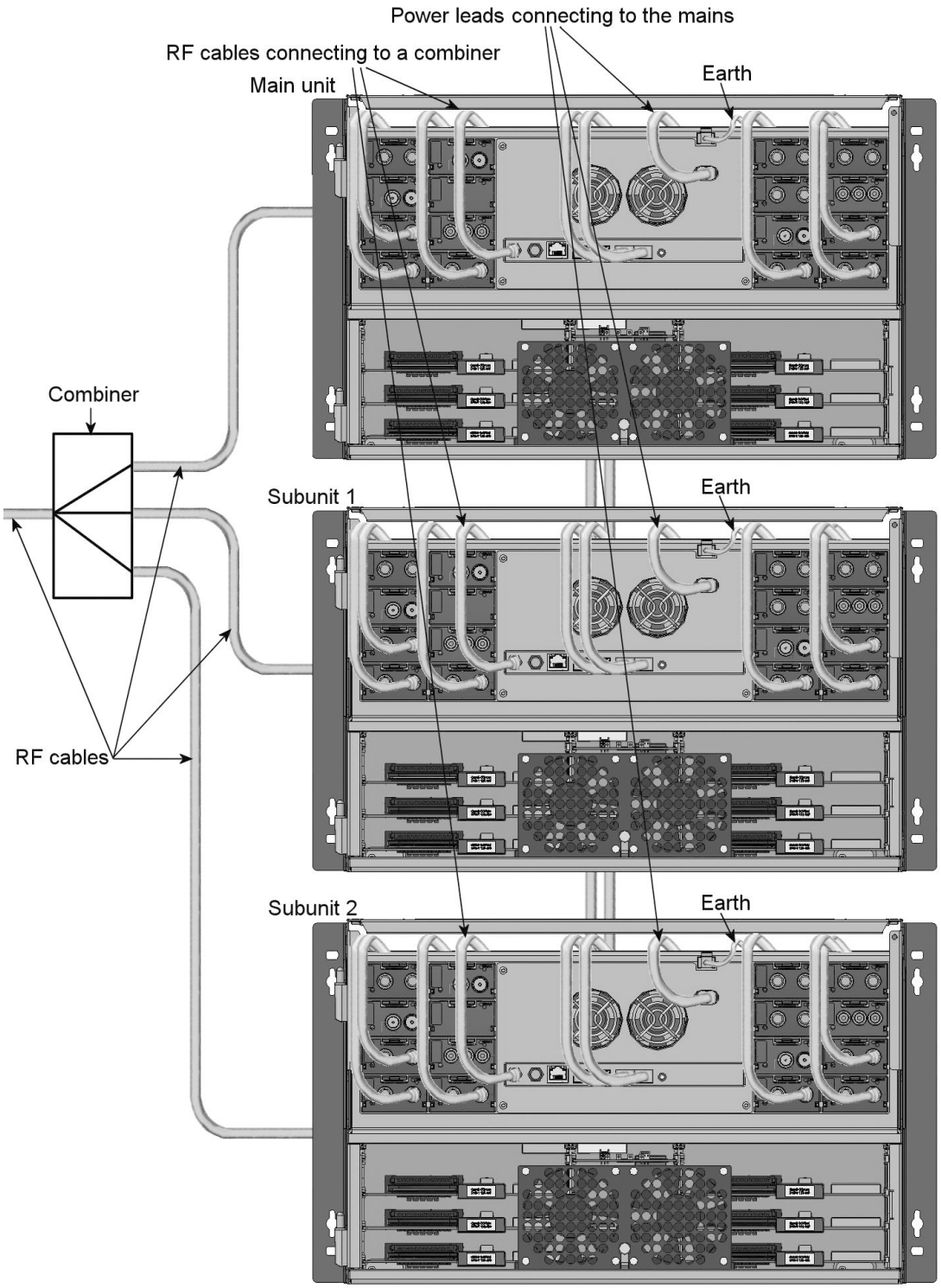
For information about how to change a default IP address, see “IP settings” on page 31.

Power & RF

Power and RF output

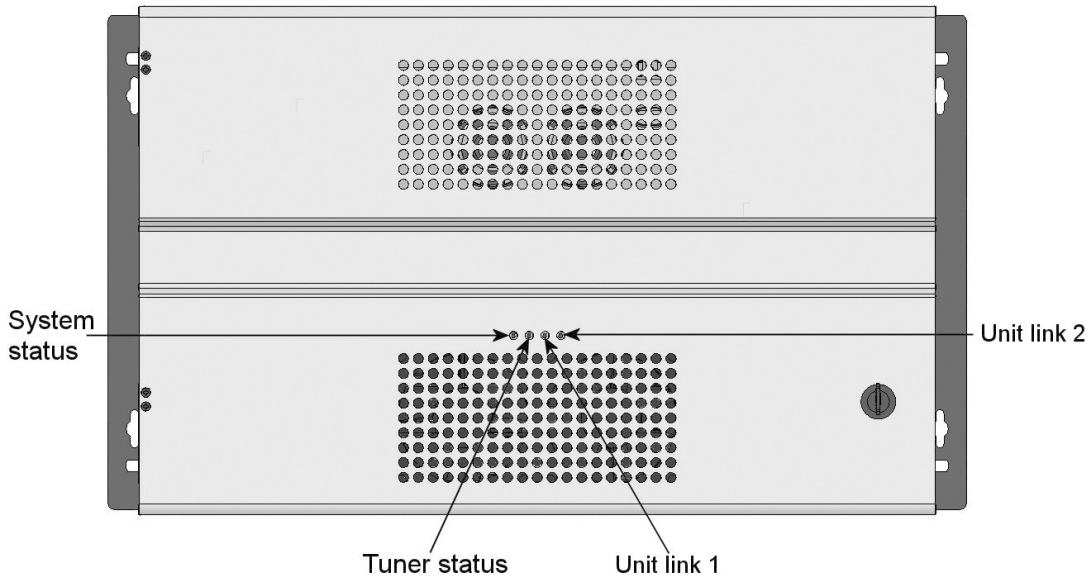
Connect each headend unit to a combiner using RF cables from the RF output socket to the combiner.

Next you connect each headend unit to the mains with a power lead from the power socket to the mains.



LEDs

To indicate the state of the headend system and the individual units, four LEDs are placed at the top of the output section having separate functions.



The colours of the LEDs can be green, green - flashing or red. The message delivered by the colour depends on the function of the individual LEDs.

System status

- Green: Power is on and the headend system is up and running.
- Green - flashing: The headend system is booting.
- Red: An error has been detected in the headend system and it must be investigated.

Tuner status

- Green: The tuners are locked.
- Red: One or more tuners are not locked.

Unit link 1

- Green: The subunit is connected to the main unit.
- Red: There is a problem with the connection to the subunit.
- No colour: No subunit is connected to the main unit.

Unit link 2

- Green: The subunit is connected to the main unit.
- Red: There is a problem with the connection to the subunit.
- No colour: No subunit is connected to the main unit.

Configuration

Configuration of system

In order to set up and configure the modules within the headend system you have to connect your laptop (Windows based) to the RJ45 socket on the main headend unit using a Cat5 cable.

The Triax TDX Digital Headend system uses the programmes below and in addition to access the TDX Service Tool Microsoft© Silverlight Runtime version 3.0 is required.

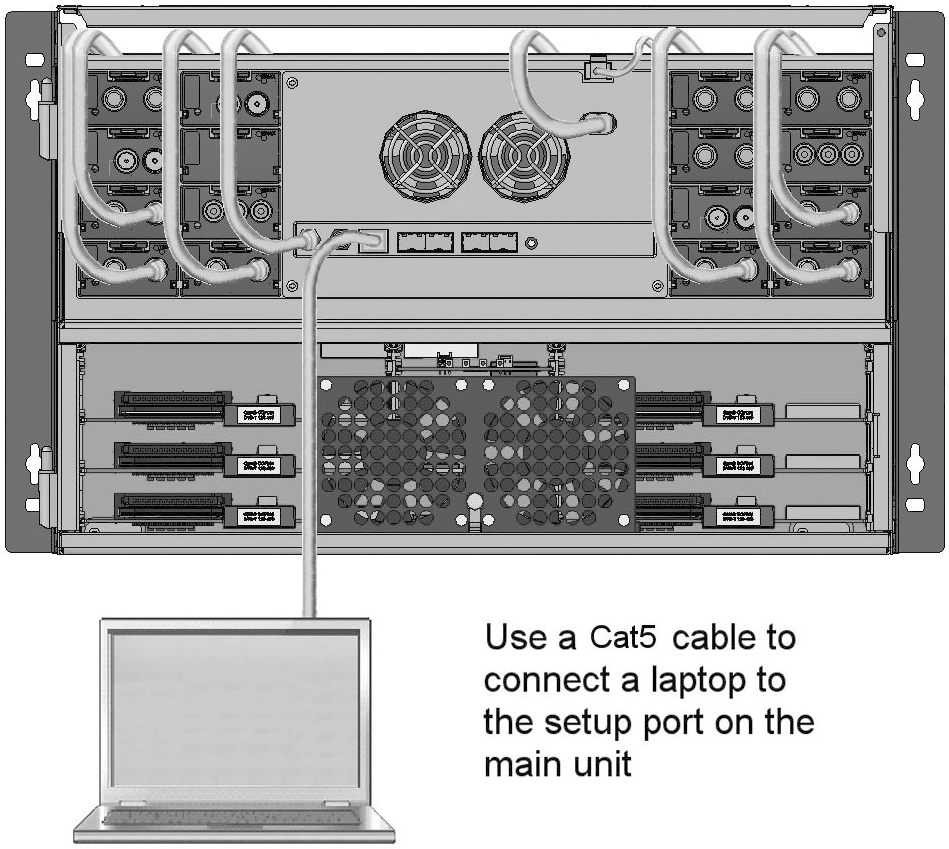
Recommendations:
Operating system: Windows XP or above.

Browser: Windows Internet Explorer version 6.0 or above.

Additional software: Microsoft© Silverlight Runtime version 3.0 or above.

To access the TDX Service Tool, open your web browser on your laptop and input the following IP address in the web address bar **http://192.168.0.100** and press enter.

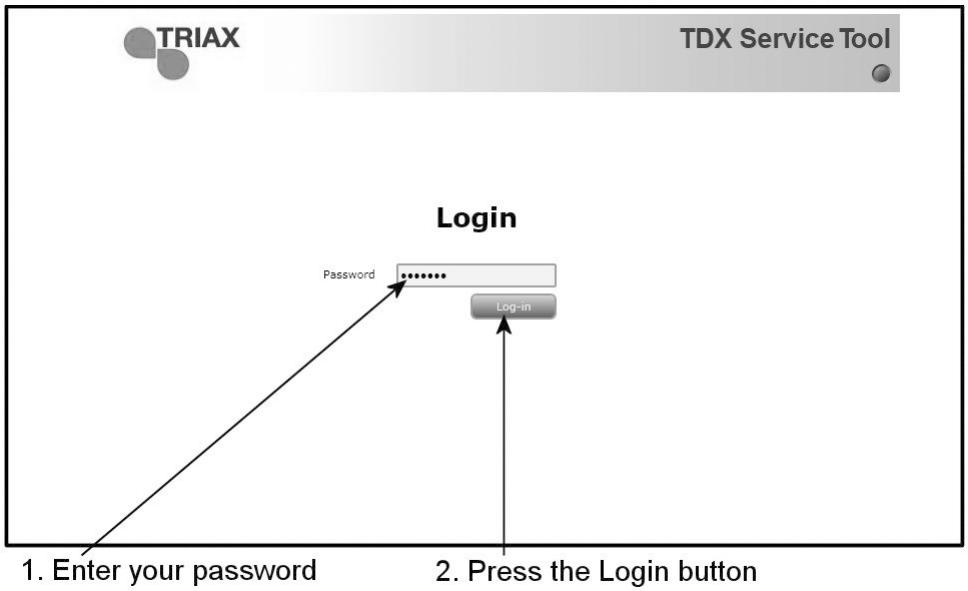
Note Your laptop has to use a static IP address in order to access the TDX Service Tool using the above mentioned IP address.



Use a Cat5 cable to connect a laptop to the setup port on the main unit

Log in

When you have loaded the TDX Service Tool from the TDX headend system to your laptop/computer the Login window of TDX Service Tool is displayed.



The first time you want to log in to your TDX headend system you have to enter the default password. The default password is: **triax1234**

You can change the default password as soon as you have logged in to your headend system. More information about changing passwords, see “Password settings” on page 29.

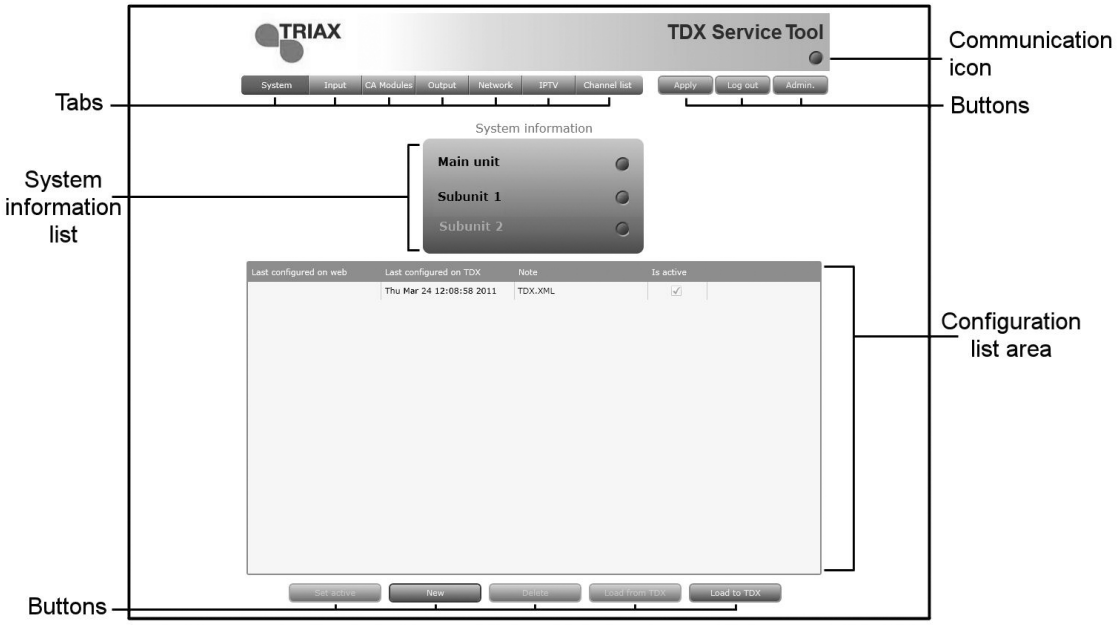
When you have pressed the Log in button the System window is displayed.

Note Every time you set up a new headend system you have to start from scratch in the TDX Service Tool, meaning that you will have change the default password, select which language you want to use in the TDX Service Tool and change the IP address if your TDX headend system is part of a distribution network.

System window

System window

The System window contains a number of tabs and buttons, information about connected units and a configuration list area.



Communication icon Informs you when the communication between the TDX system and theTDX Service Tool fails.

Tabs Via the tabs you enter the different stages of setting up your input and output modules.

Buttons You use the buttons in the upper right-hand corner in connection with the TDX Service tool whereas you use the buttons below the configuration list area in connection with the entire setup itself.

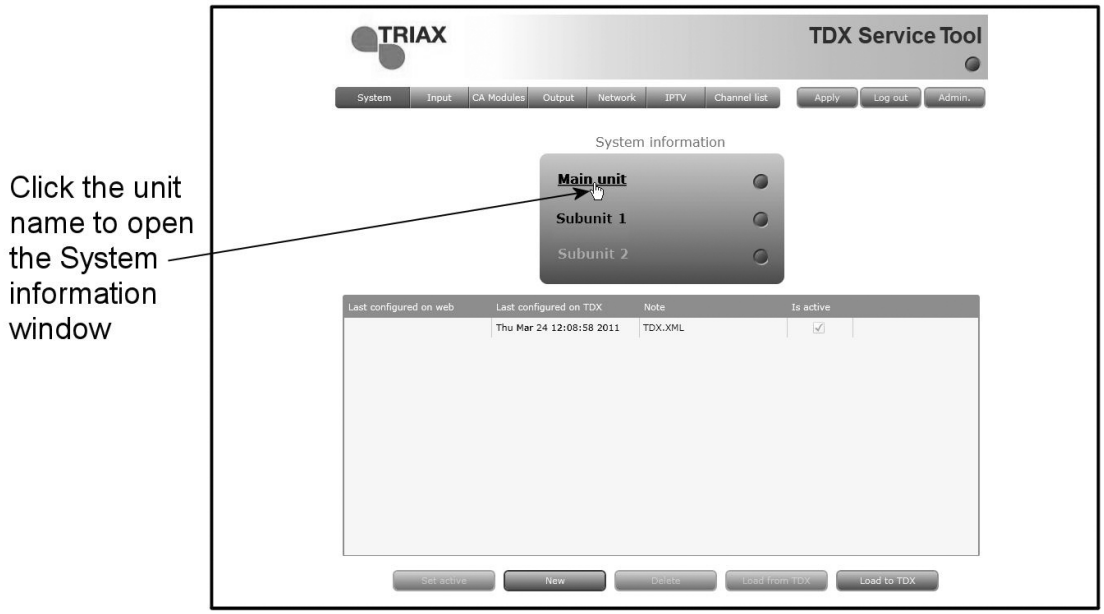
System information list This list displays whether any subunits are connected to the main headend unit and also whether they are up and running.

Configuration list area This list area will display your present configuration of your headend system as well as the previous versions of the configuration.

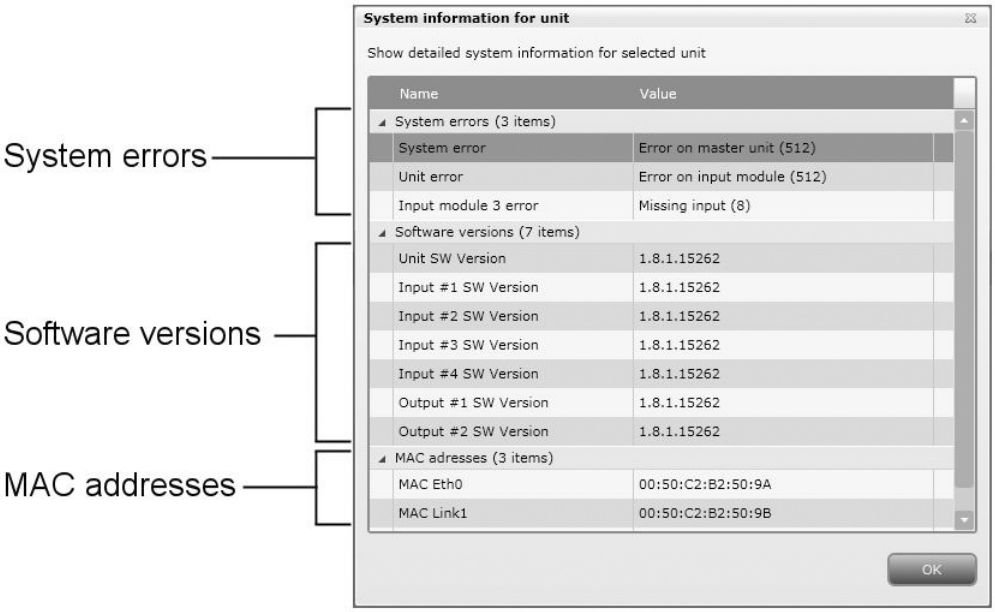
Note In connection with every **new** headend system the System window in the TDX Service Tool will display an empty configuration list area.

System information

To get detailed information about the individual units you can click the unit in question in the System information list and open the System information window.



In the System information window you get information about system errors, which software version each of the input and output modules uses and the MAC addresses.



In connection with errors in your TDX headend system you can use the System information window as starting point for locating the errors.

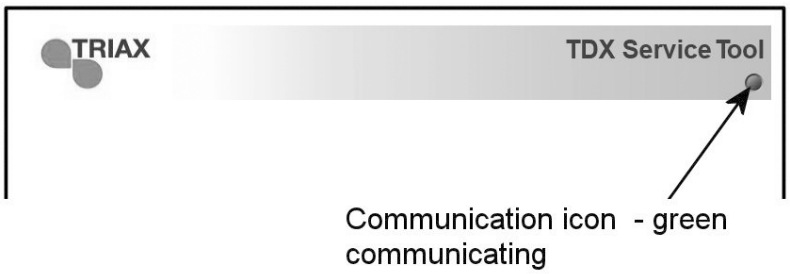
System window

Communication icon

The colour of the communication icon tells you when TDX Service Tool is not communicating properly with the TDX headend system.

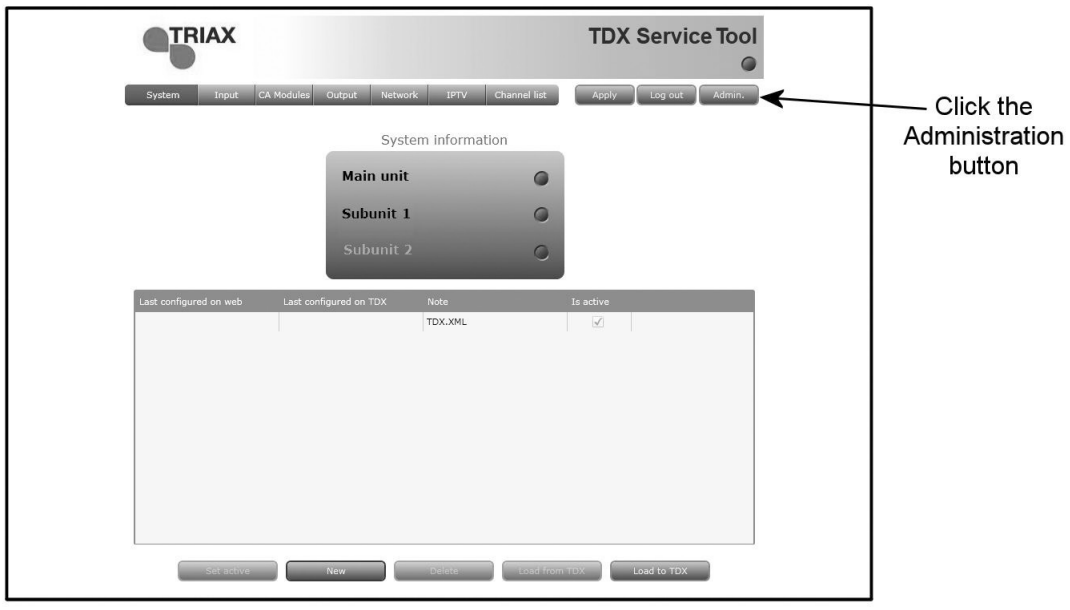
Green: The TDX Service Tool and your TDX headend system exchange information without any problems.

Red: The TDX Service Tool and your TDX headend system are not communicating properly. Press the F5 button to refresh the internet browser and renew communication between the TDX Service Tool and the headend system.



Administration window

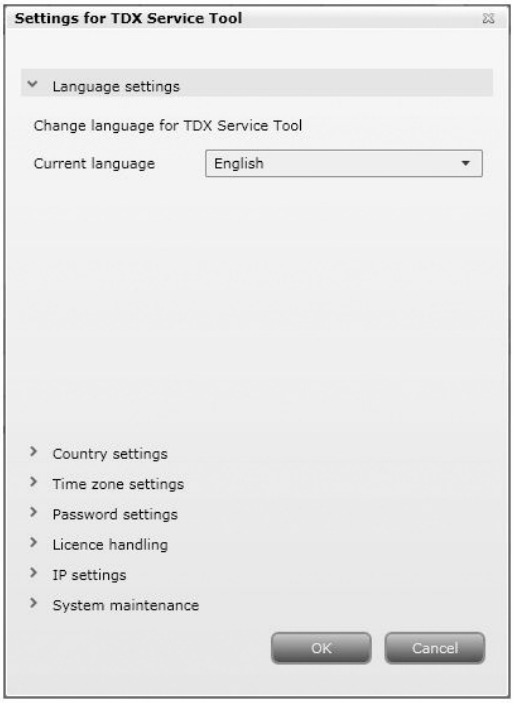
To change password and language you have to open the Administration window by clicking the Admin. button in the top right-hand corner of the System window.



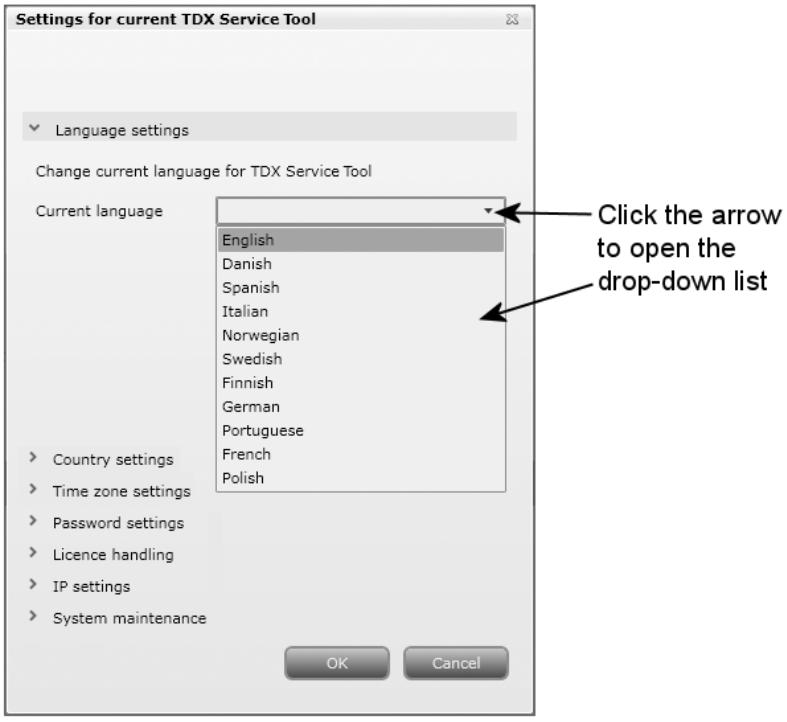
Click the Admin. button to open the Administration window.

Language settings

When you have opened the Administration window the Language settings area is displayed.



To select another language, click the arrow to the right of the Current language field to open the drop-down list with the languages you can choose from.

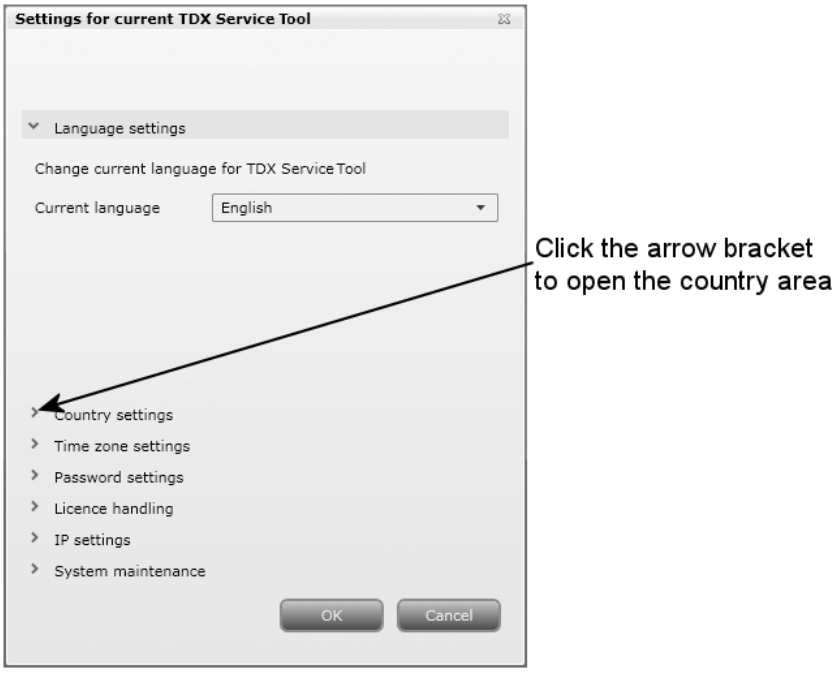


Select the language you want to use in the TDX Service Tool.
The language you selected is now displayed in the Current language field.

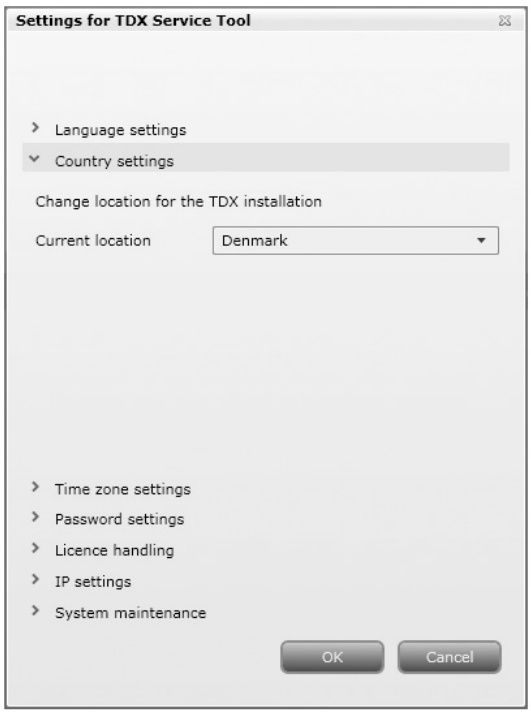
Settings

Country settings

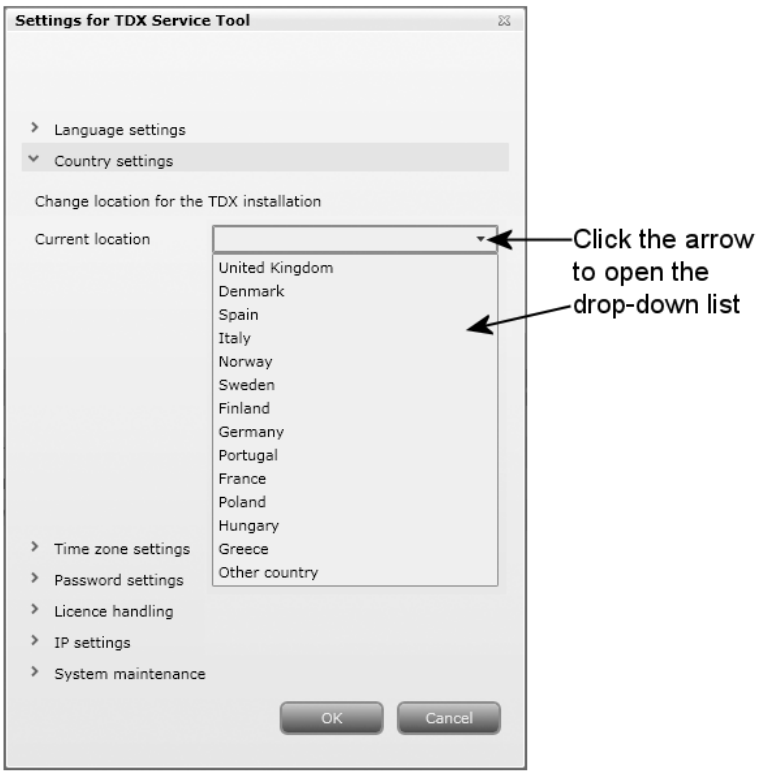
To enter the Country settings area, click the arrow bracket to the left of Country settings.



Now you can see the fields of the Country settings area.



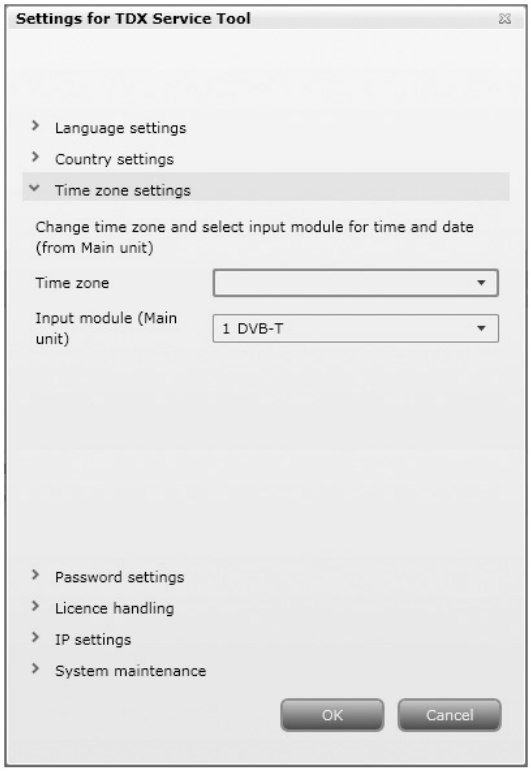
To set the location of your TDX headend system, click the arrow to the right of the Country field to open the drop-down list that contains the countries you can choose from.



Select the country in which your TDX headend system is located. The country you selected is now displayed in the Country field.

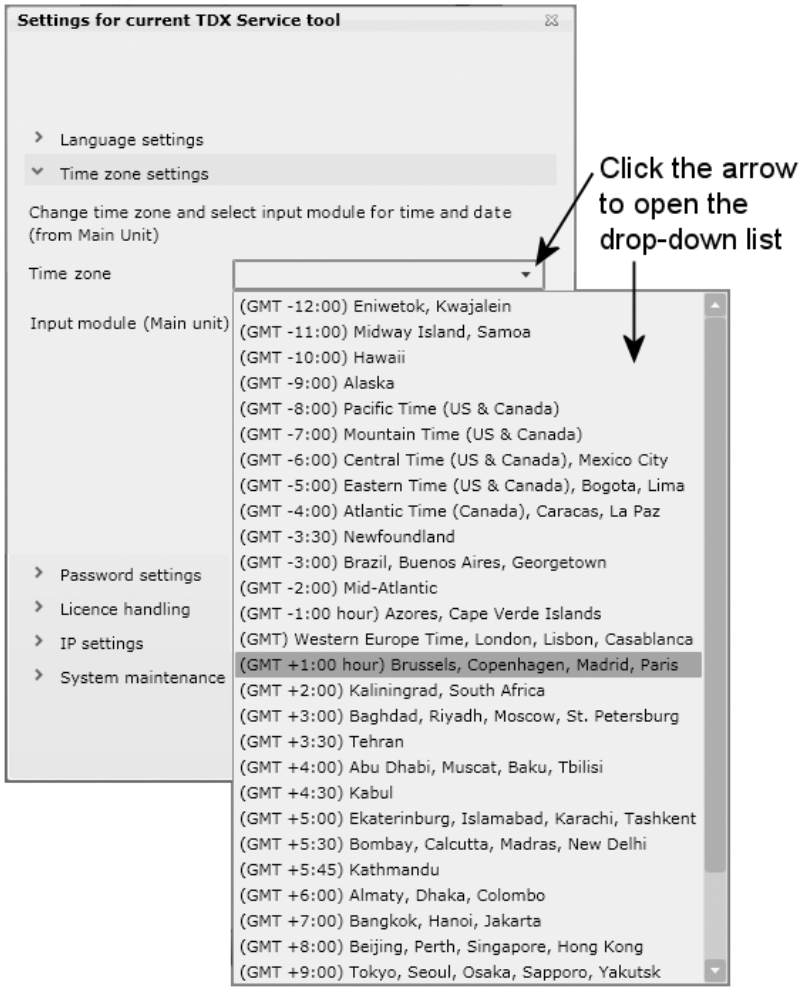
Time zone settings

To enter the Time zone settings area, click the arrow bracket to the left of Time zone settings.



Settings

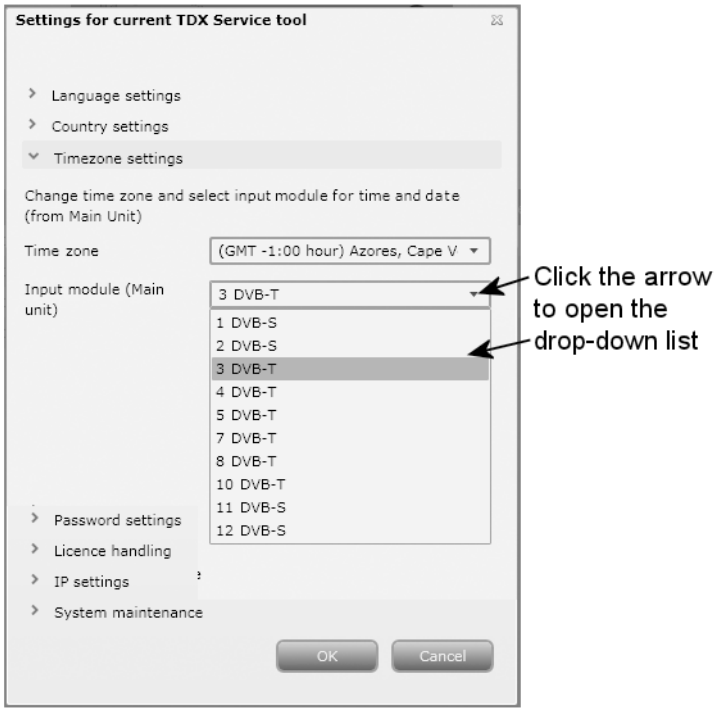
To set the time zone of your TDX headend system, click the arrow to the right of the Time zone field to open the drop-down list with the time zones you can choose from.


Settings for current TDX Service tool
Language settings
Time zone settings
Change time zone and select input module for time and date (from Main Unit)
Time zone
Input module (Main unit)
Password settings
Licence handling
IP settings
System maintenance
Click the arrow to open the drop-down list
(GMT -12:00) Eniwetok, Kwajalein
(GMT -11:00) Midway Island, Samoa
(GMT -10:00) Hawaii
(GMT -9:00) Alaska
(GMT -8:00) Pacific Time (US & Canada)
(GMT -7:00) Mountain Time (US & Canada)
(GMT -6:00) Central Time (US & Canada), Mexico City
(GMT -5:00) Eastern Time (US & Canada), Bogota, Lima
(GMT -4:00) Atlantic Time (Canada), Caracas, La Paz
(GMT -3:30) Newfoundland
(GMT -3:00) Brazil, Buenos Aires, Georgetown
(GMT -2:00) Mid-Atlantic
(GMT -1:00 hour) Azores, Cape Verde Islands
(GMT) Western Europe Time, London, Lisbon, Casablanca
(GMT +1:00 hour) Brussels, Copenhagen, Madrid, Paris
(GMT +2:00) Kaliningrad, South Africa
(GMT +3:00) Baghdad, Riyadh, Moscow, St. Petersburg
(GMT +3:30) Tehran
(GMT +4:00) Abu Dhabi, Muscat, Baku, Tbilisi
(GMT +4:30) Kabul
(GMT +5:00) Ekaterinburg, Islamabad, Karachi, Tashkent
(GMT +5:30) Bombay, Calcutta, Madras, New Delhi
(GMT +5:45) Kathmandu
(GMT +6:00) Almaty, Dhaka, Colombo
(GMT +7:00) Bangkok, Hanoi, Jakarta
(GMT +8:00) Beijing, Perth, Singapore, Hong Kong
(GMT +9:00) Tokyo, Seoul, Osaka, Sapporo, Yakutsk

Select the time zone you want to use in connection with your TDX headend system.

The time zone you selected is now displayed in the Time zone field.

To set time in accordance with the time zone, click the arrow to the right of the Input module field to open the drop-down list with all the input modules installed in your main unit.



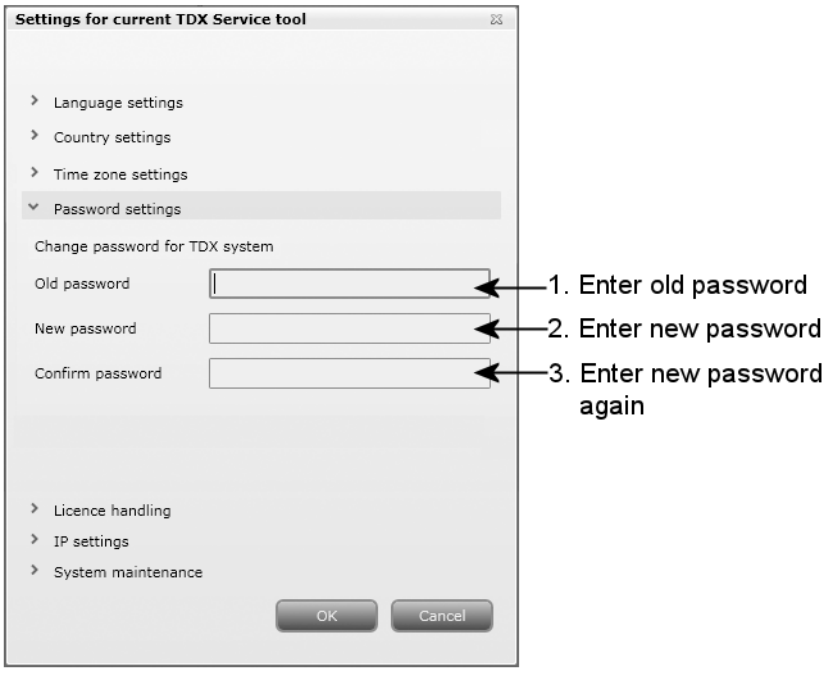
Select the input module you want to use for setting the time. The input module you selected is now displayed in the Input module field.

Password settings

To enter the Password settings area, click the arrow bracket to the left of Password settings.

To change password enter the old password in the Old password field.

Enter the new password in the New password field.



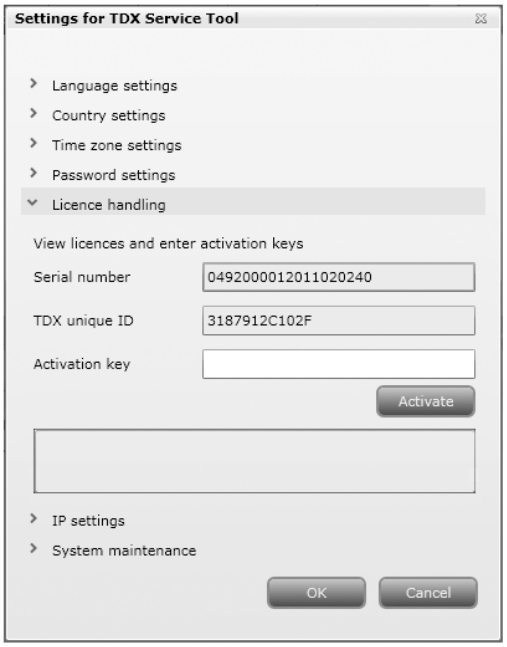
To verify the new password enter the new password once more in the Confirm password field.

Settings

Licence handling

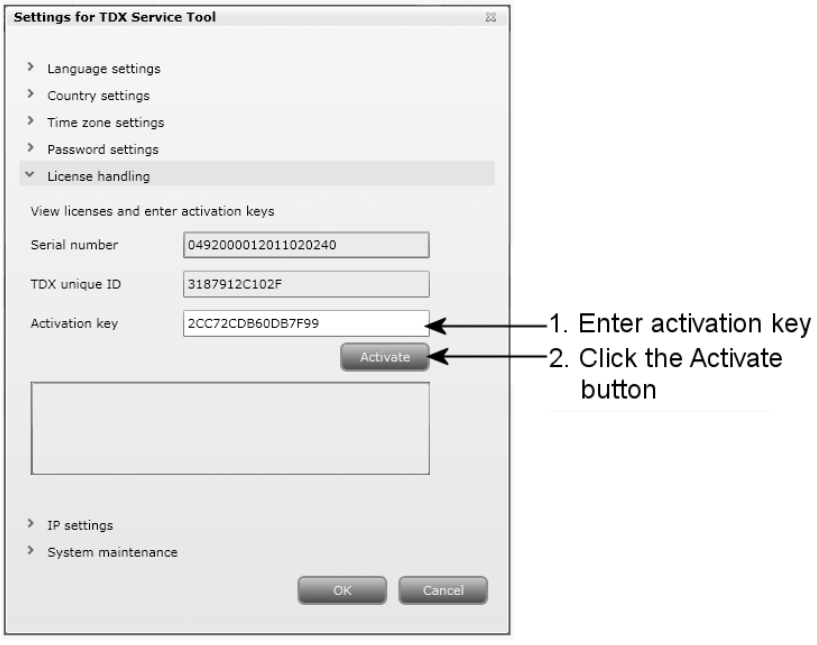
If you have bought licences to output services using e.g. IPTV you have to activate these licences in your TDX headend system using Licence handling in the Administration window.

To enter the Licence handling area, click the arrow bracket to the left of Licence handling.

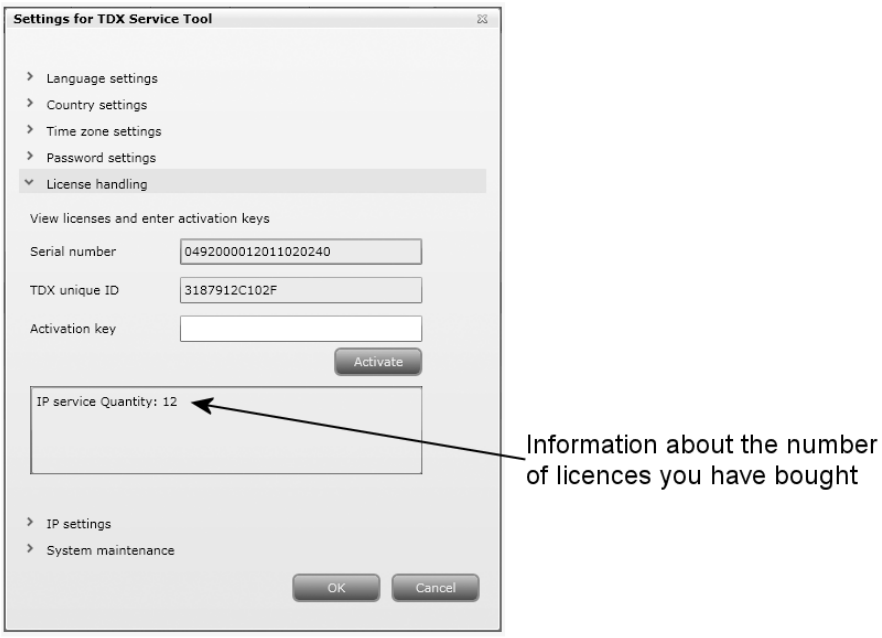


Before you can activate a licence you have to contact Triax and provide information about the serial number displayed in the Serial number field and the ID displayed in the TDX unique ID field.

When Triax has received the ID of your TDX they will provide you with the activation key.



Enter the activation key in the Activation key field then click the Activate button to access the licence you have bought.



Note When you have clicked the Activate button to access your licence your TDX unique ID is changed and the activation key is deleted.

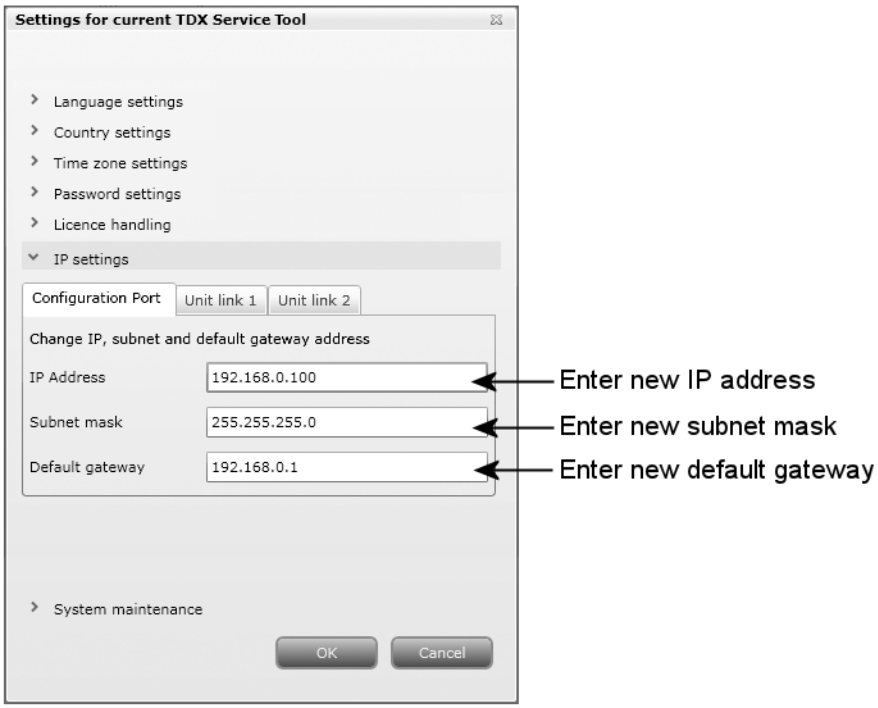
If you want to buy more licences you will have to contact Triax with the new TDX unique ID to Triax to get a new activation key to access an additional licence.

When you have accessed your licence you use e.g. the IPTV tab to select the services you want to output in connection with the licence.

IP settings

If your TDX headend system is part of a network you have to change the IP address of the configuration port to include the main unit in the network.

To enter the IP settings area, click the arrow bracket to the left of IP settings.



Enter a new IP address, subnet mask and default gateway in the corresponding fields.

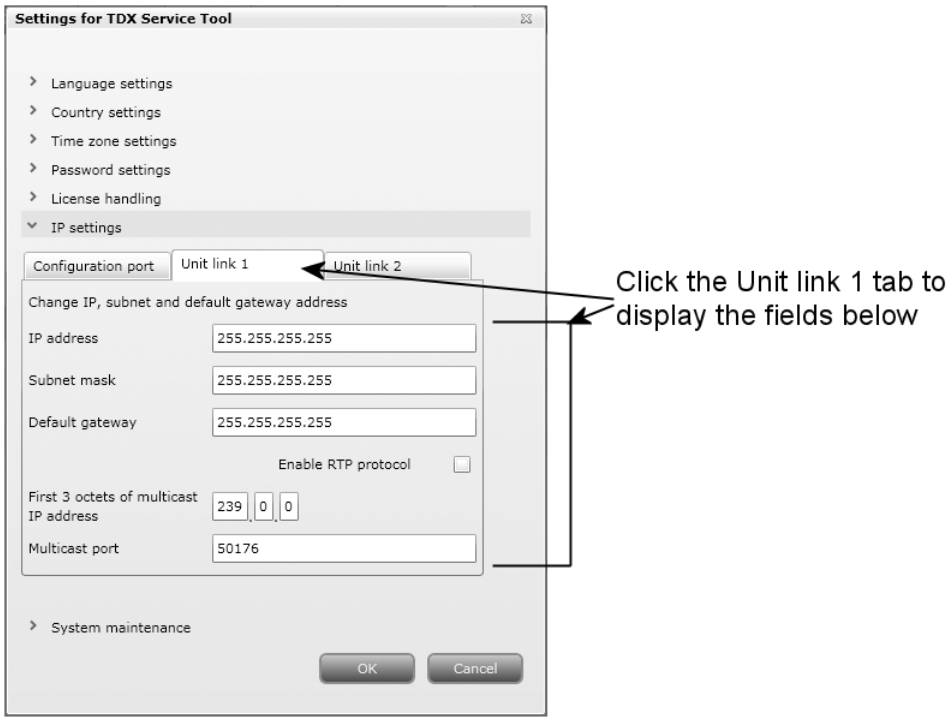
Important To make a changed IP address take effect you have to reboot the TDX headend system using the Reboot button in the System maintenance area or switch off the power.

Note In case you need to reset the IP address to the factory default address, you have to use the ID switch. For information about how to use the ID switch to reset the IP address, see “ID switch” on page 17.

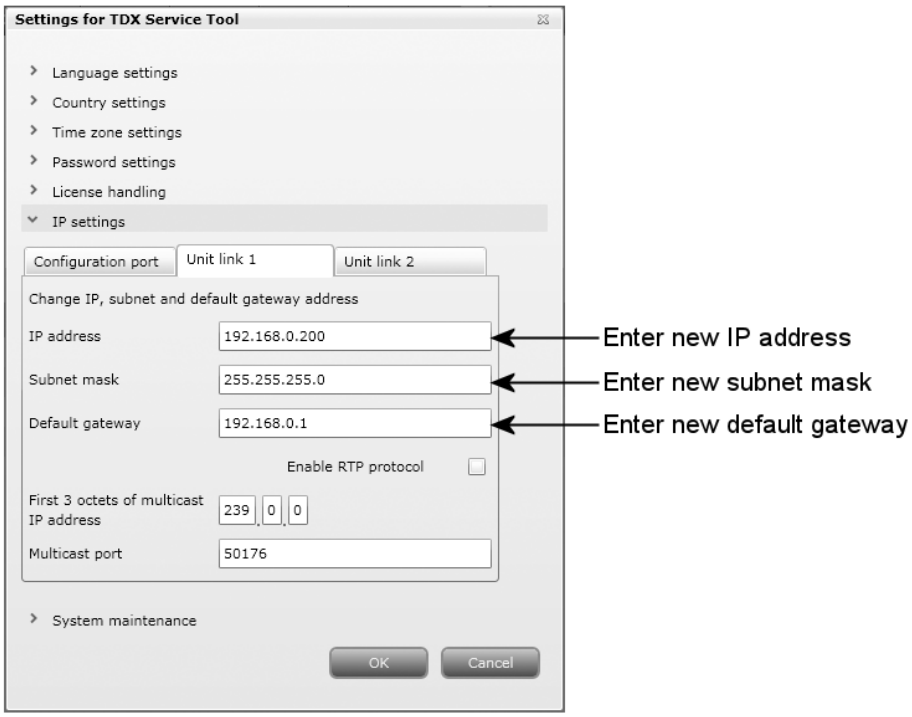
To output services using an IPTV system or to include a subunit in a network you have to enter an IP address, subnet mask and default gateway for each unit link socket you use.

With regard to IPTV you also have to enter a multicast IP address and a multicast port for each unit link socket you use. .

To enter the IP settings area, click the arrow bracket to the left of IP settings. Now click the Unit link 1 tab to display the relevant fields.



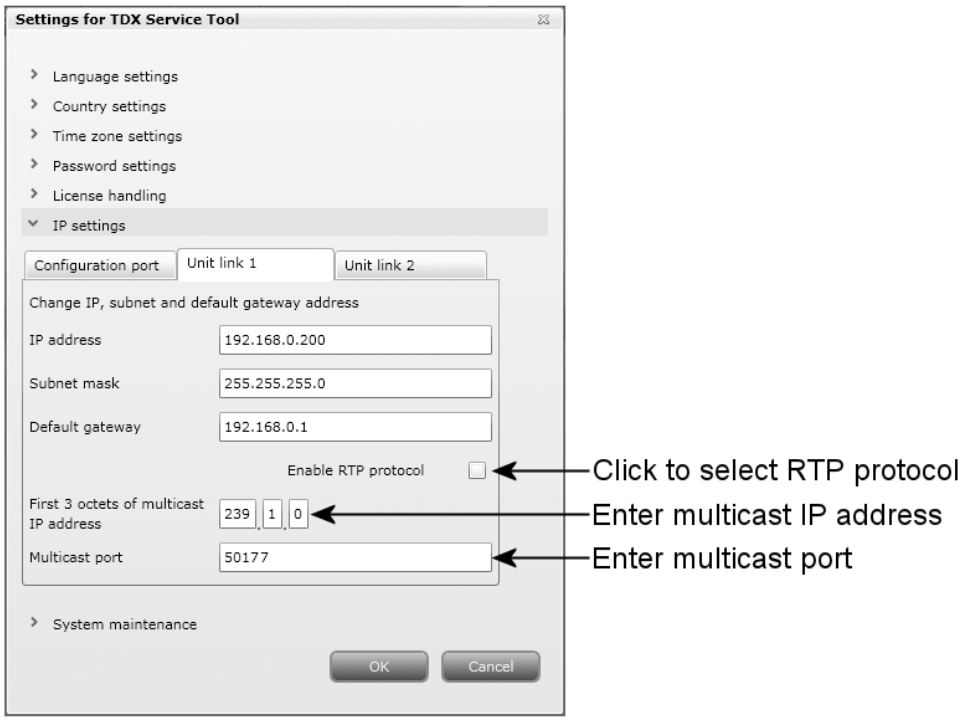
Enter a new IP address, subnet mask and default gateway in the corresponding fields.



In connection with IPTV the fields at the bottom of the area are needed as well.

Click the Enable RTP protocol check box if you want to use Real-time Transport Protocol in your IPTV system.

In case you cannot use the default values displayed in the two fields, enter a new multicast IP address and a multicast port in the corresponding fields.

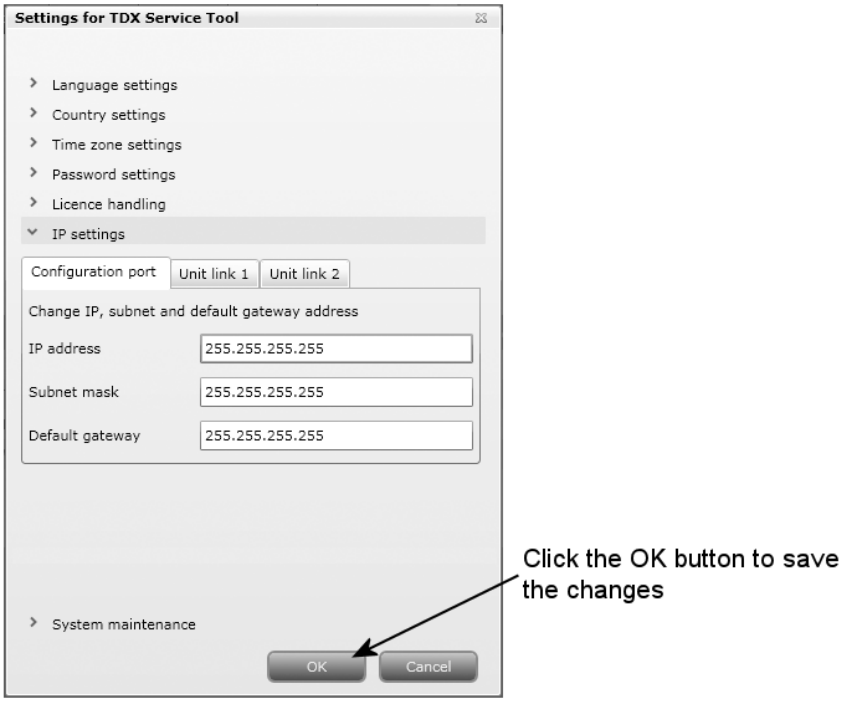


Click the Unit link 2 tab if you have connected an IPTV system or a second subunit to the Unit link 2 socket and enter an IP address, subnet mask and default gateway and in connection with IPTV also a multicast IP address and a multicast port.

Important To make a changed IP address take effect you have to reboot the TDX headend system using the Reboot button in the System maintenance area or switch off the power.

Save settings

When you have made the changes you want to make in the Administration window, click the OK button at the bottom of the Administration window to save the changes and return to the System window.



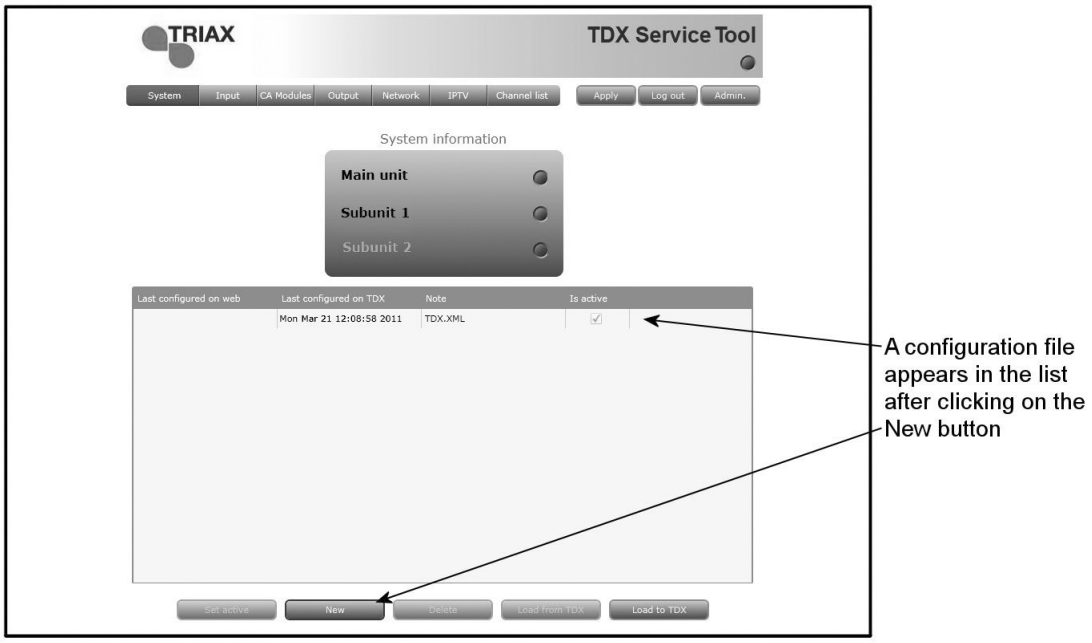
Note You only need to change password, language, time zone, country and IP addresses the first time you enter a new TDX headend system in order to set it up.

WARNING - All unsaved changes will be lost in case of a power cut

Create a new system configuration

To create a new configuration, click the New configuration button in the System window.

Now a configuration file is created and the file is listed in the configuration list area.



You use the buttons below the configuration list area to manage configuration files in your headend system.

Set active Click this button when you want to activate a selected configuration file.

New Click this button to create a new configuration file.

Delete Click this button to delete a selected configuration file.

Load to TDX Click this button to download a configuration file from your computer/laptop to your TDX system. More information about downloading, see “Load to TDX” on page 45.

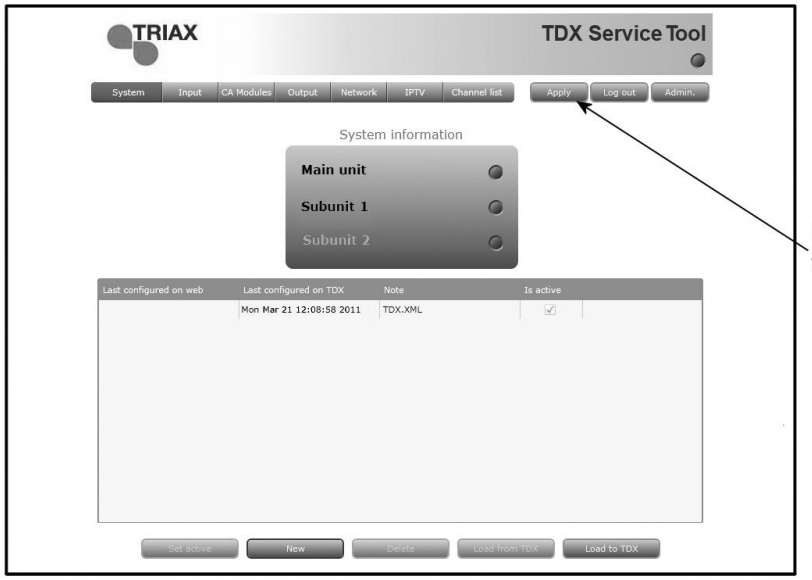
Load from TDX Click this button to upload the configuration file from the TDX system to your computer/laptop. More information about uploading, see “Load from TDX” on page 46

To activate a new configuration file, select the file and click the Set active button, and the Apply button to save the configuration file.

System configuration

Save configuration

An **important button** when you change your configuration of the headend system is the **Apply** button placed in the upper right-hand corner of the TDX Service Tool window.



Apply

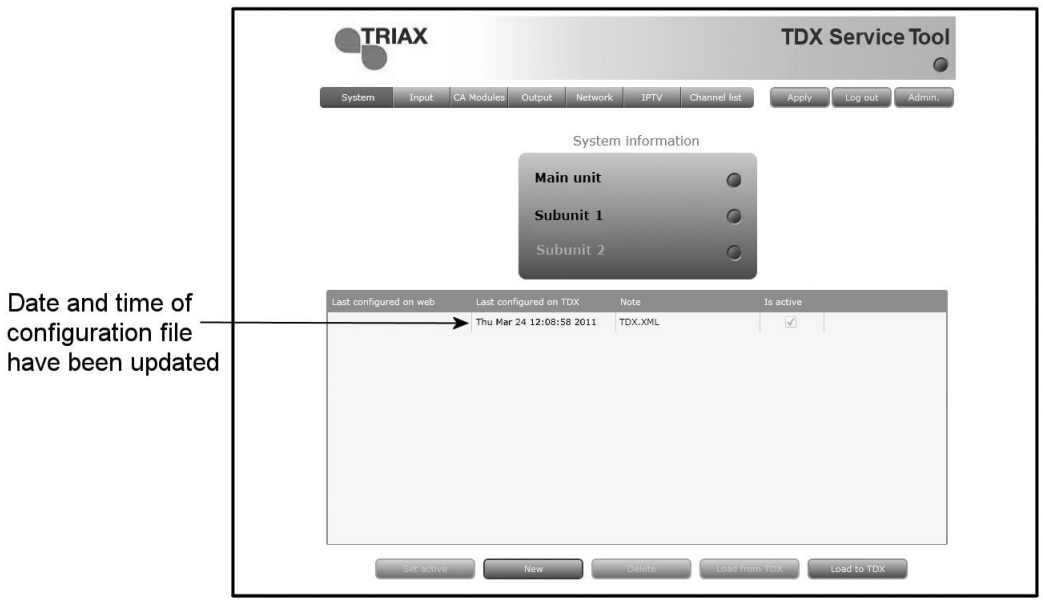
Whenever you have made changes in your configuration, “Apply” on the Apply button turns red to tell you that you have unsaved changes that need to be saved.

Click the Apply button to **save** the changes. When changes have been saved the “Apply” text looses the red colour.

WARNING - All unsaved changes will be lost in case of a power cut

Change system configuration

When you change an existing configuration of your headend system the TDX Service Tool updates the date and time of the configuration file when you save the changes using the Apply button.

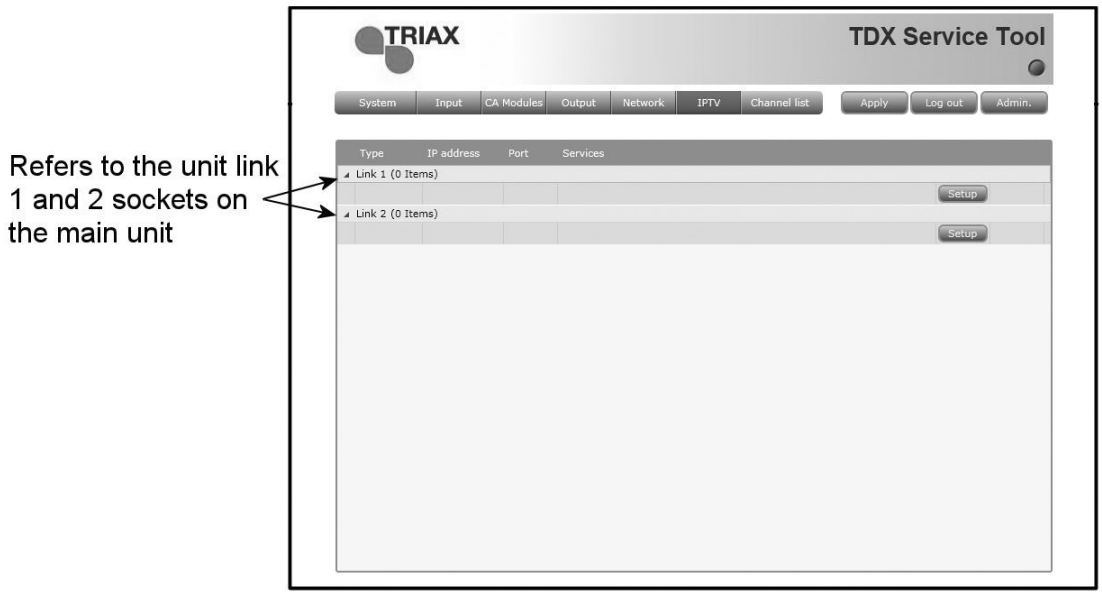


IPTV window

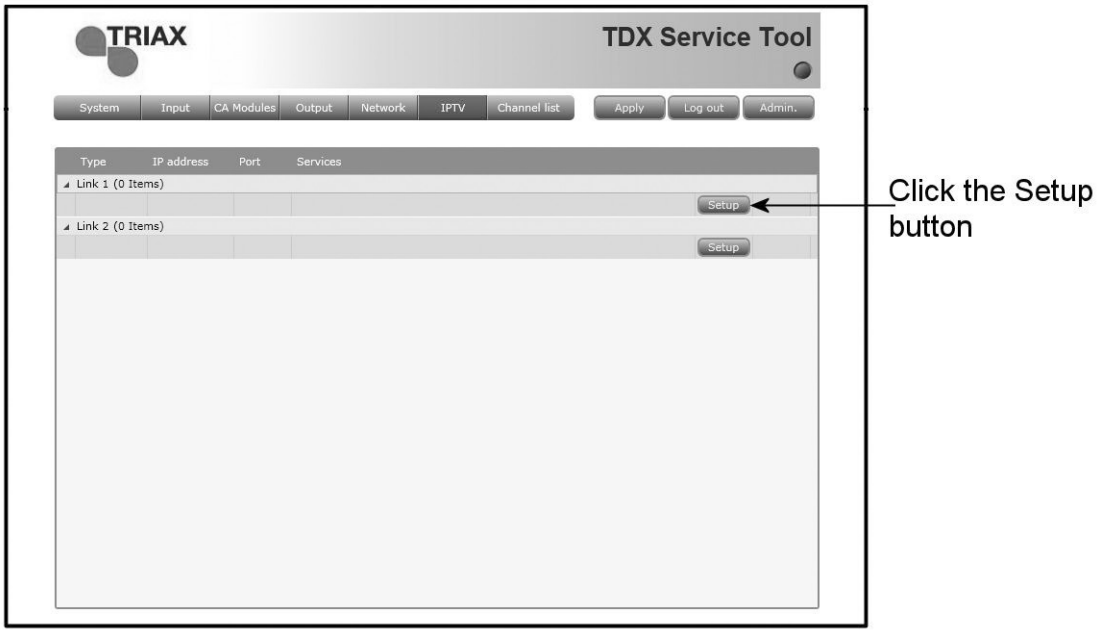
The TDX headend system includes basic IPTV functionality which enables you to deliver services using the architecture and networking methods of the Internet Protocol Suite over a packet-switched network infrastructure, e.g. the Internet and broadband Internet access networks.

To output services using IPTV, click the IPTV tab in the TDX Service Tool to display the IPTV window.

The first time you display the IPTV window in a new configuration the list areas below "Link 1" and "Link 2" representing the unit link 1 and 2 sockets on the main unit will be empty.

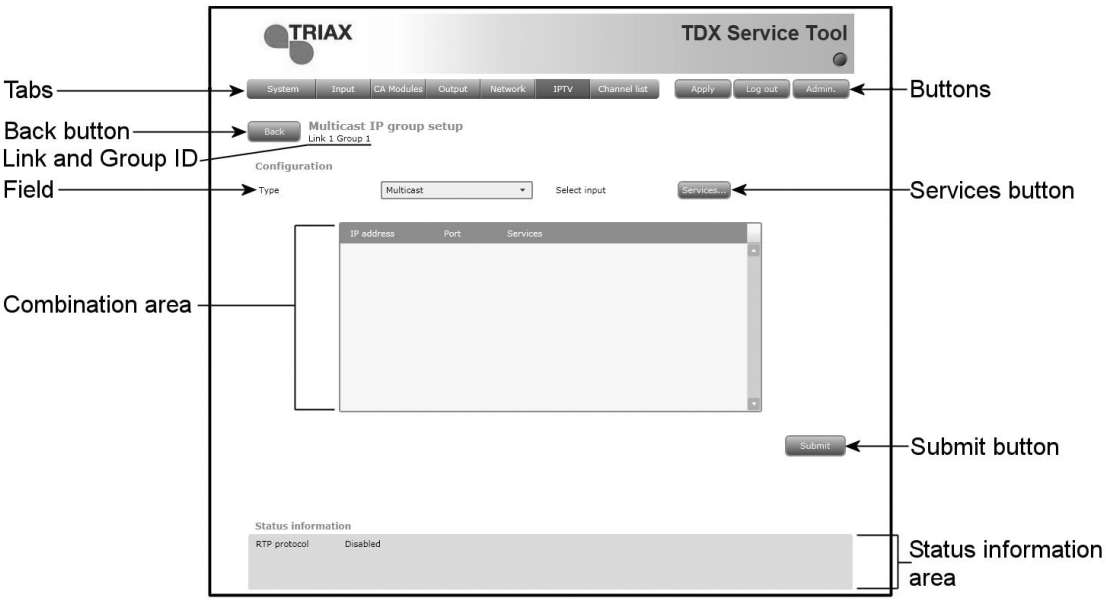


To display the Configuration window, click the Setup button of the unit link socket to which your IPTV system is connected.



IPTV configuration window

The first time the TDX Service Tool displays the Configuration window in a new configuration the fields in the window will either display a default value or be empty.



Type

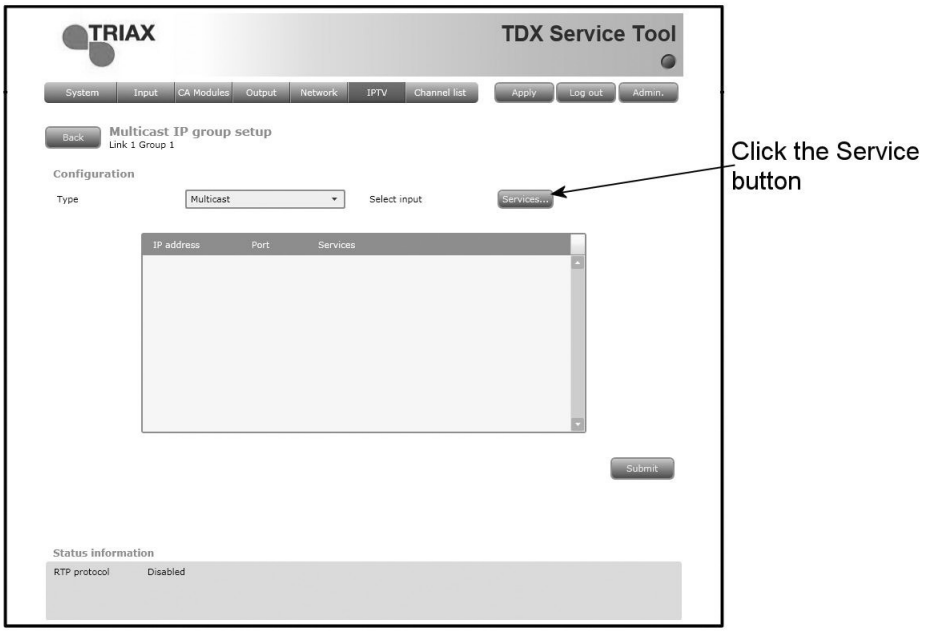
To select the desired type of communication, click the arrow to the right of the Type field to open the drop-down list with the types you can choose from.

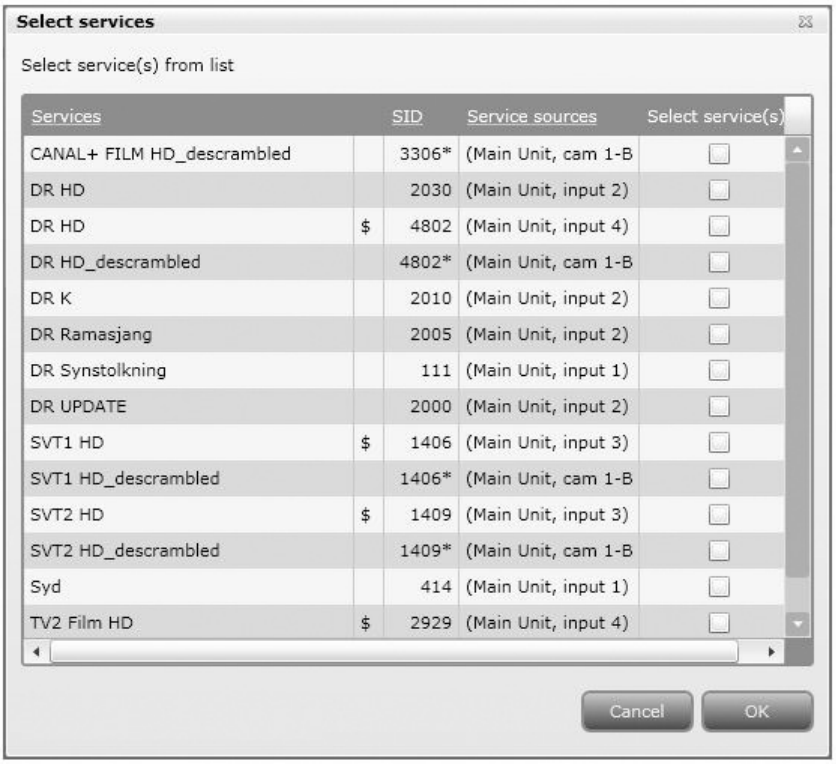
Select the type you want to use.

Select input

To select services, click the Services... button next to Select input label to open the Select services window.

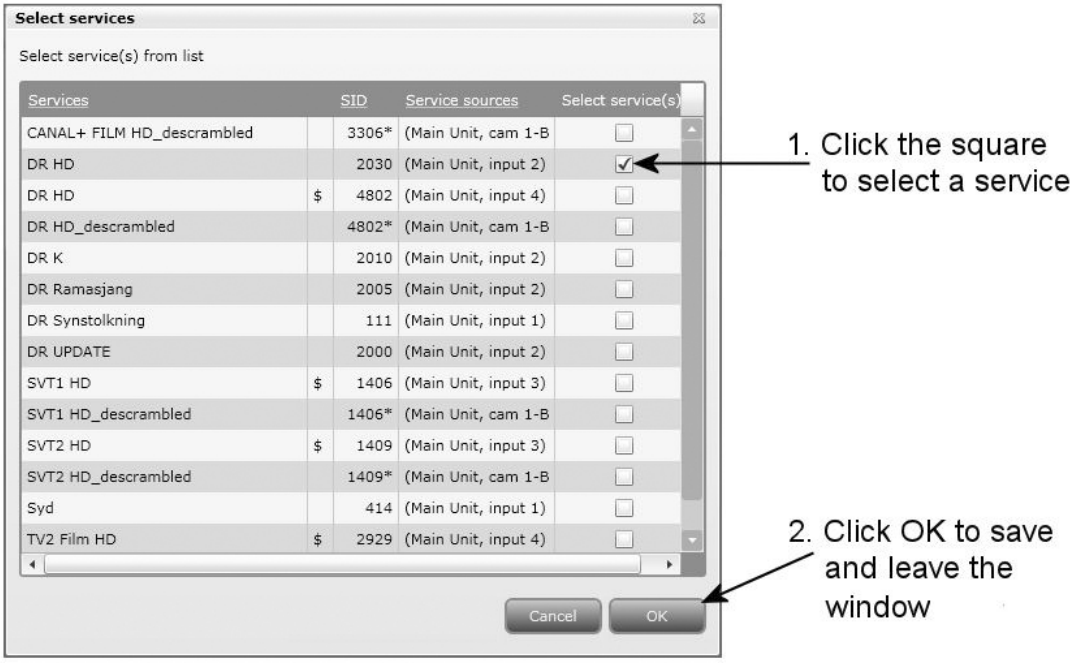
Note If you have selected “Multicast” in the Type field you can only output one service on each IP address.




Select services
Select service(s) from list
Services
SID
Service sources
Select service(s)
CANAL+ FILM HD_descrambled 3306* (Main Unit, cam 1-B
DR HD 2030 (Main Unit, input 2)
DR HD $ 4802 (Main Unit, input 4)
DR HD_descrambled 4802* (Main Unit, cam 1-B
DR K 2010 (Main Unit, input 2)
DR Ramasjang 2005 (Main Unit, input 2)
DR Synstolkning 111 (Main Unit, input 1)
DR UPDATE 2000 (Main Unit, input 2)
SVT1 HD $ 1406 (Main Unit, input 3)
SVT1 HD_descrambled 1406* (Main Unit, cam 1-B
SVT2 HD $ 1409 (Main Unit, input 3)
SVT2 HD_descrambled 1409* (Main Unit, cam 1-B
Syd 414 (Main Unit, input 1)
TV2 Film HD $ 2929 (Main Unit, input 4)
Cancel
OK

In the Select Services window you can select the service that you want to output.

To select one or more services, click the check box (square) to the right of the service you want.

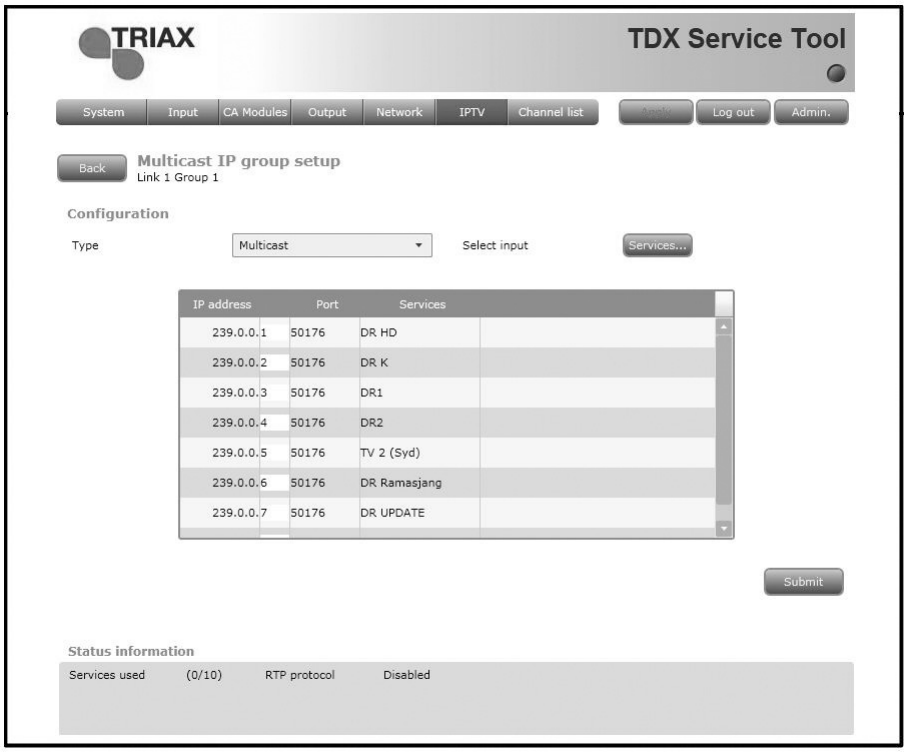

Select services
Select service(s) from list
Services
SID
Service sources
Select service(s)
CANAL+ FILM HD_descrambled 3306* (Main Unit, cam 1-B
DR HD 2030 (Main Unit, input 2)
DR HD $ 4802 (Main Unit, input 4)
DR HD_descrambled 4802* (Main Unit, cam 1-B
DR K 2010 (Main Unit, input 2)
DR Ramasjang 2005 (Main Unit, input 2)
DR Synstolkning 111 (Main Unit, input 1)
DR UPDATE 2000 (Main Unit, input 2)
SVT1 HD $ 1406 (Main Unit, input 3)
SVT1 HD_descrambled 1406* (Main Unit, cam 1-B
SVT2 HD $ 1409 (Main Unit, input 3)
SVT2 HD_descrambled 1409* (Main Unit, cam 1-B
Syd 414 (Main Unit, input 1)
TV2 Film HD $ 2929 (Main Unit, input 4)
Cancel
OK
1. Click the square to select a service
2. Click OK to save and leave the window

Click OK to return to the Configuration window when you have selected the services you want to output.

If you have selected more services than your licence(s) entitles you to select, you will get a warning and the services that exceed the number of services you can select will be deselected

Note When you have selected a service this service will no longer be available in the TDX-pool for the unit link in question.

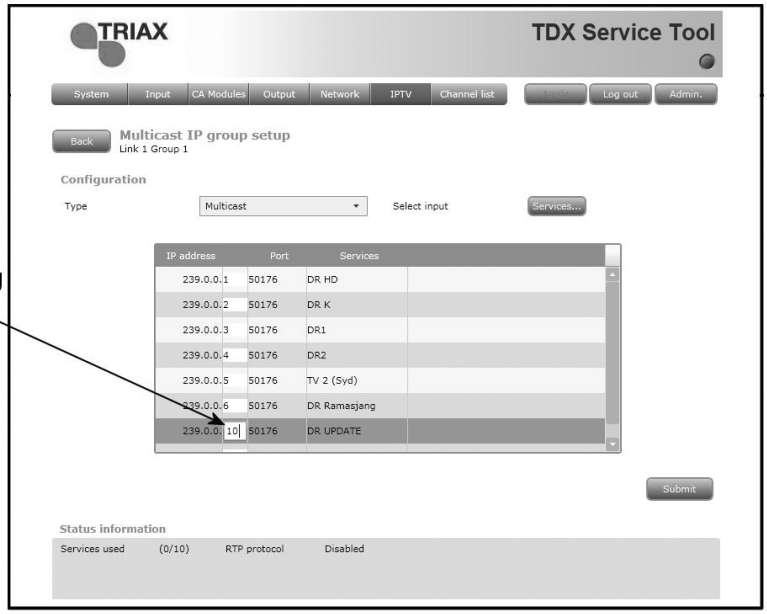
In the Configuration window the combination area displays the services you have selected and the IP addresses that have been allocated to each of the services.



It is possible to change the last digits of the IP address if for example you want to change the order of the services.

Note You can change the first digits of the IP address in the IP settings area in the Administration window.

To change the last digits of the IP address, click the field, delete the existing digit(s) and enter the new digit(s).



1. Click the field
2. Delete the existing digit(s)
3. Enter the new digit(s)

When you have selected the services you want you have to click the Submit button to enter this information in to the headend system and return to the Output window.

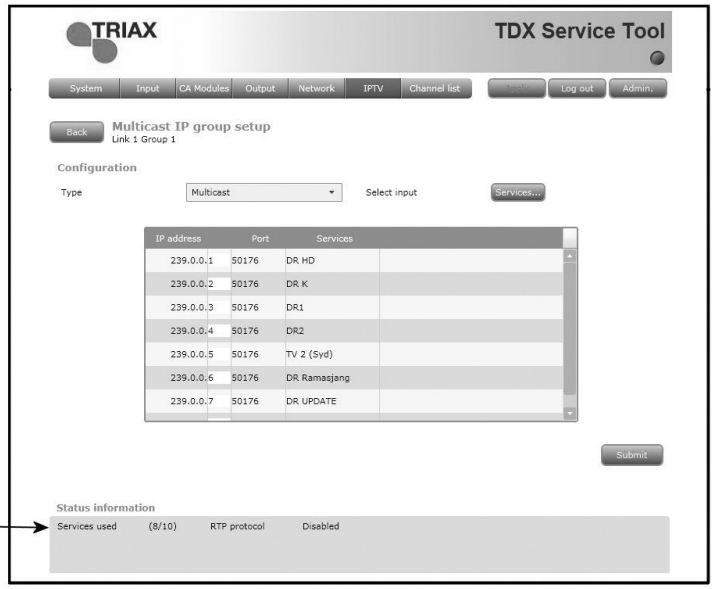
Remember to click the Apply button in the upper right-hand corner to save new settings in the configuration.

Status information

Status information is placed at the bottom of the Configuration window. The information displayed in the configuration window includes RTP protocol and services.

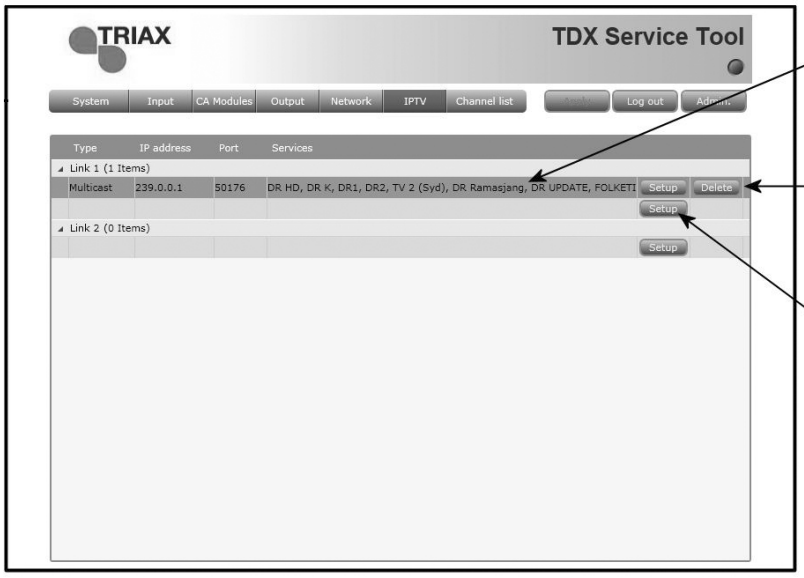
RTP protocol Informs whether or not you have enabled RTP in the IP settings menu in the Administration window.

Services used Tells you how many services out of the total number services your licence gives you access to you have output so far.



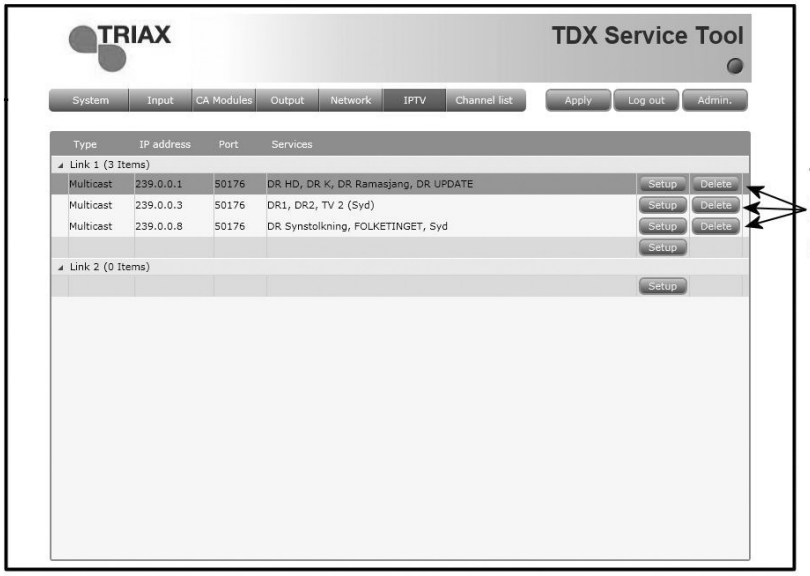
Information

When you return to the Output window the configuration of the unit link1 socket is displayed in the IPTV list.



If your licence(s) gives you access to select a large number of services it is possible to group the services in the IPTV list in order not to lose control of which services you have selected.

To configure a new group of services, click the Setup button to open the Configuration window. Select a number of services in the Configuration window, click the Submit button to enter this information in to the headend system and return to the Output window which will display the new group.



Delete IP group

If you want to remove a group of services and the associated configuration you can use the Delete button of the group in question in the IPTV window.

Click the Delete button of the group you want to remove. A message window is displayed asking you to confirm that you want to remove group.

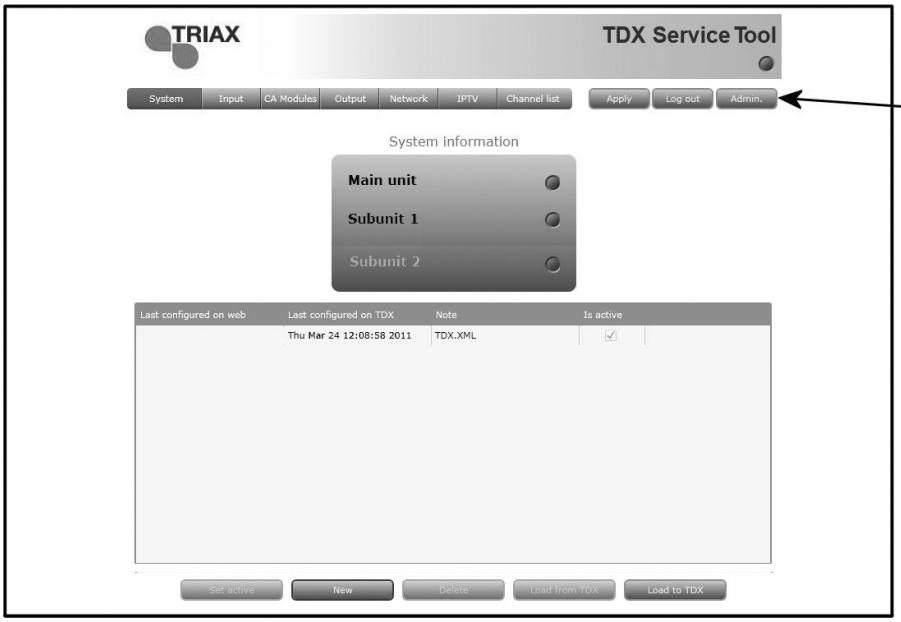
Log file

You can save a log file that lists actions that have occurred in the TDX headend system. This may be useful in case of problems with your TDX headend system.

The size of the log file will be adequate for listing all actions that have occurred in the system for a couple weeks.

To save a log file on your computer/laptop you have to open the Administration window.

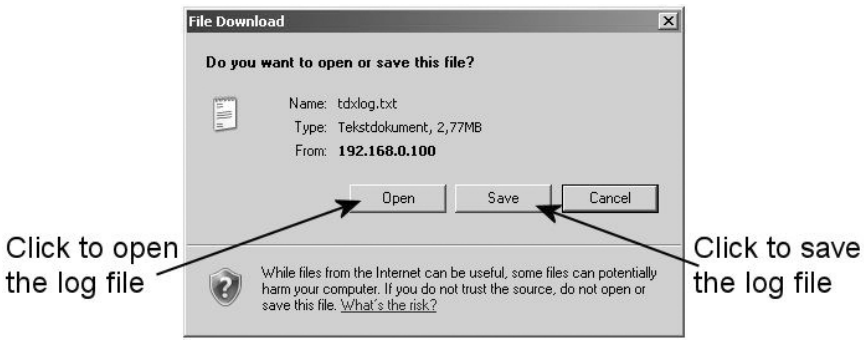
Click the Admin. button in the top right-hand corner of the TDX Service Tool window to open the Administration window.



To enter the System maintenance area, click the arrow bracket to the left of System maintenance.

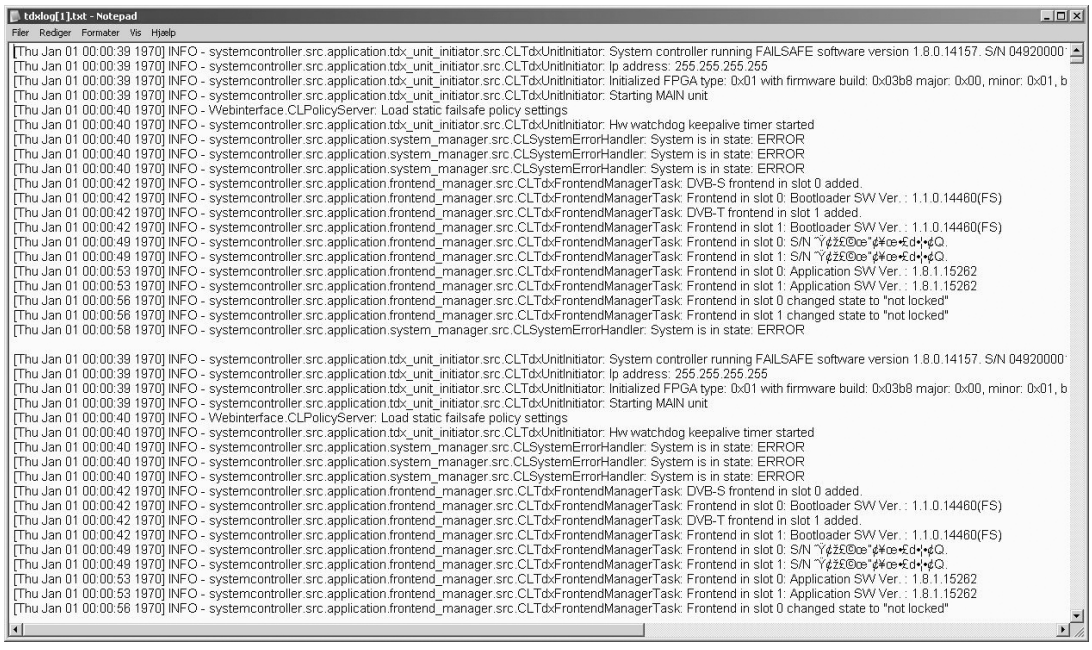
Log file

In the System maintenance area click the Save log button to open the File Download window.


File Download
Do you want to open or save this file?
Name: tdxlog.txt
Type: Tekstdokument, 2,77MB
From: 192.168.0.100
Open
Save
Cancel
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. What's the risk?
Click to open the log file
Click to save the log file

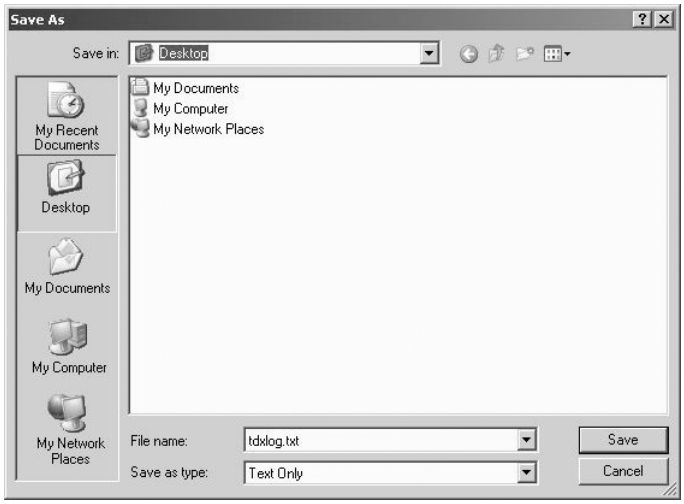
In the File Download window you can either open the log file or save the file to your laptop/computer.

If you want to open the log file click the Open button in the File Download window.

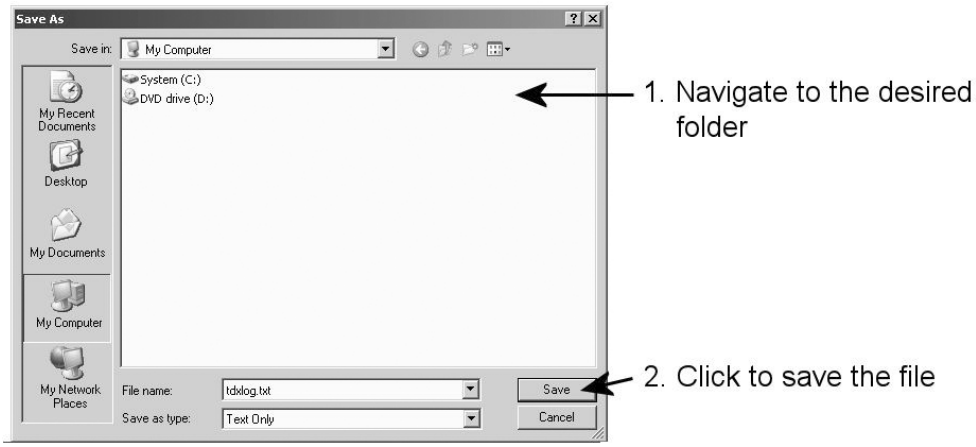

tdxlog[1].txt - Notepad
Filer Rediger Formater Vis Hjælp
[Thu Jan 01 00:00:39 1970] INFO - systemcontroller.src.application.tdx_unit_initiator.src.CLTdxUnitInitiator: System controller running FAILSAFE software version 1.8.0.14157. S/N 04920000
[Thu Jan 01 00:00:39 1970] INFO - systemcontroller.src.application.tdx_unit_initiator.src.CLTdxUnitInitiator: Ip address: 255.255.255.255
[Thu Jan 01 00:00:39 1970] INFO - systemcontroller.src.application.tdx_unit_initiator.src.CLTdxUnitInitiator: Initialized FPGA type: 0x01 with firmware build: 0x03b8 major: 0x00, minor: 0x01, b
[Thu Jan 01 00:00:39 1970] INFO - systemcontroller.src.application.tdx_unit_initiator.src.CLTdxUnitInitiator: Starting MAIN unit
[Thu Jan 01 00:00:40 1970] INFO - Webinterface.CLPolicyServer: Load static failsafe policy settings
[Thu Jan 01 00:00:40 1970] INFO - systemcontroller.src.application.tdx_unit_initiator.src.CLTdxUnitInitiator: Hw watchdog keepalive timer started
[Thu Jan 01 00:00:40 1970] INFO - systemcontroller.src.application.system_manager.src.CLSystemErrorHandler: System is in state: ERROR
[Thu Jan 01 00:00:40 1970] INFO - systemcontroller.src.application.system_manager.src.CLSystemErrorHandler: System is in state: ERROR
[Thu Jan 01 00:00:40 1970] INFO - systemcontroller.src.application.system_manager.src.CLSystemErrorHandler: System is in state: ERROR
[Thu Jan 01 00:00:42 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: DVB-S frontend in slot 0 added.
[Thu Jan 01 00:00:42 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 0: Bootloader SW Ver. : 1.1.0.14460(FS)
[Thu Jan 01 00:00:42 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: DVB-T frontend in slot 1 added.
[Thu Jan 01 00:00:42 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 1: Bootloader SW Ver. : 1.1.0.14460(FS)
[Thu Jan 01 00:00:49 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 0: S/N
[Thu Jan 01 00:00:49 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 1: S/N
[Thu Jan 01 00:00:53 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 0: Application SW Ver. : 1.8.1.15262
[Thu Jan 01 00:00:53 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 1: Application SW Ver. : 1.8.1.15262
[Thu Jan 01 00:00:56 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 0 changed state to "not locked"
[Thu Jan 01 00:00:56 1970] INFO - systemcontroller.src.application.frontend_manager.src.CLTdxFrontendManagerTask: Frontend in slot 1 changed state to "not locked"
[Thu Jan 01 00:00:58 1970] INFO - systemcontroller.src.application.system_manager.src.CLSystemErrorHandler: System is in state: ERROR

In case you need to save the log after having looked at the file in the Notepad window you can use the Save as command in the File menu of the Notepad window.

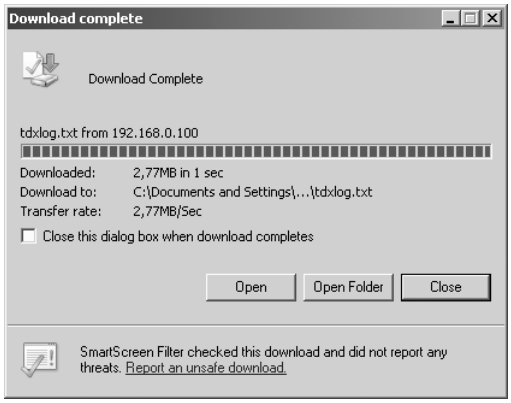
If you only want to save the log file when you open the File Download window, click the Save button to open the Save as window.



Navigate to the folder where you want to place the log file
Click the Save button to save the file.



Clicking the Save button displays the Download window.


Download complete
Download Complete
tdxlog.txt from 192.168.0.100
Downloaded: 2,77MB in 1 sec
Download to: C:\Documents and Settings\...\tdxlog.txt
Transfer rate: 2,77MB/Sec
Close this dialog box when download completes
Open
Open Folder
Close
SmartScreen Filter checked this download and did not report any threats. Report an unsafe download.

When the log file has been downloaded and saved, you can open the log file, open the folder where you have saved the log file or just close the window.

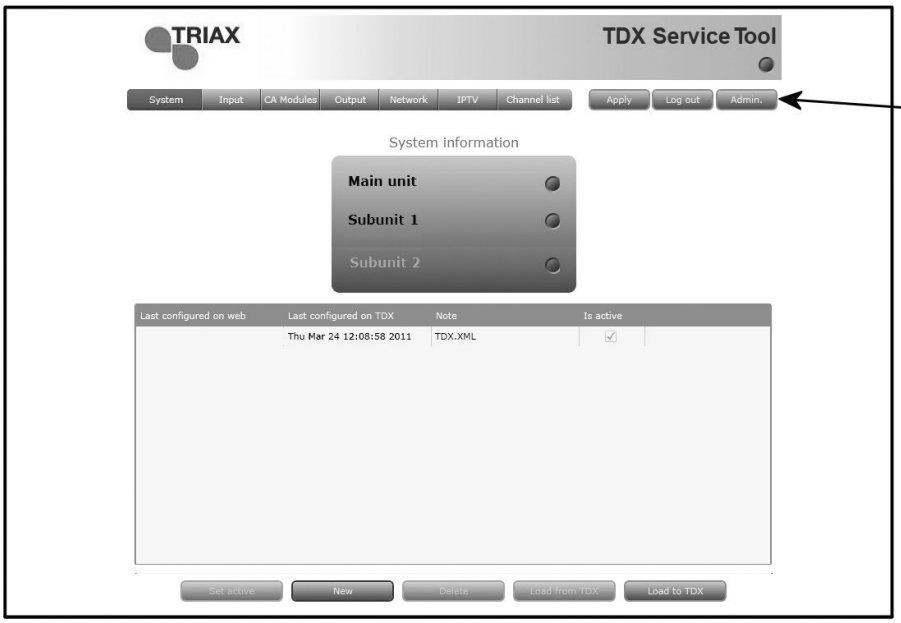
When you close the Download window you return automatically to the Administration window. Close this window by clicking the OK or Cancel button.

Updating firmware

Update firmware

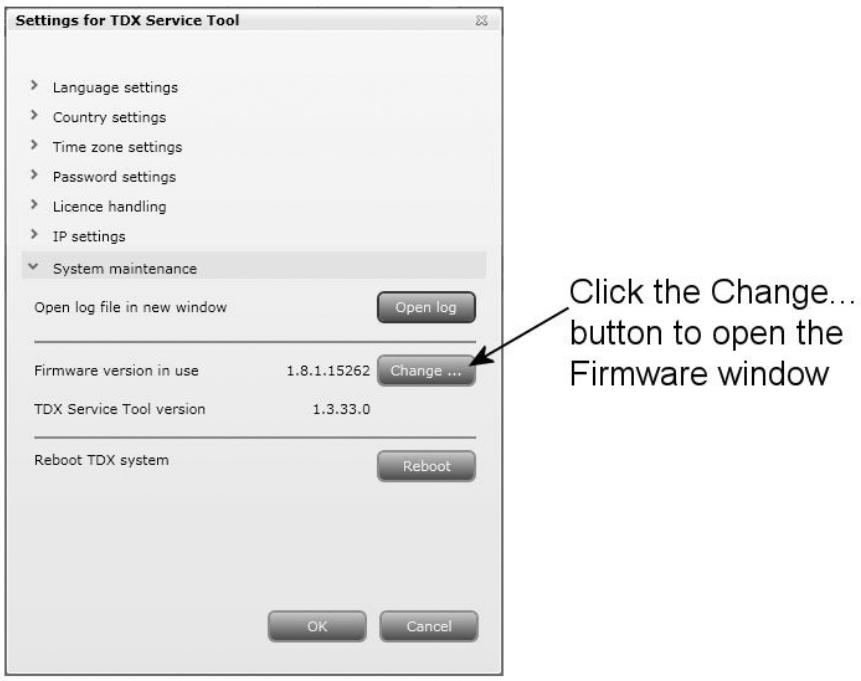
When firmware updates for your TDX system is available on the Triax home page, www.Triax.com, you can download these updates to your computer and then upload the updates to your TDX system using the Administration window.

Click the Admin. button in the top right-hand corner of the TDX Service Tool window to open the Administration window.

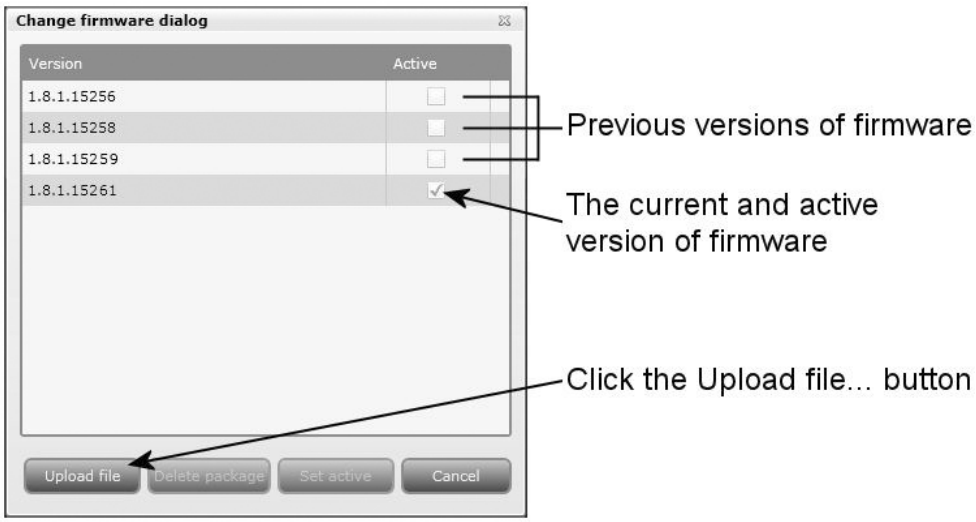


To enter the System maintenance area, click the arrow bracket to the left of System maintenance.

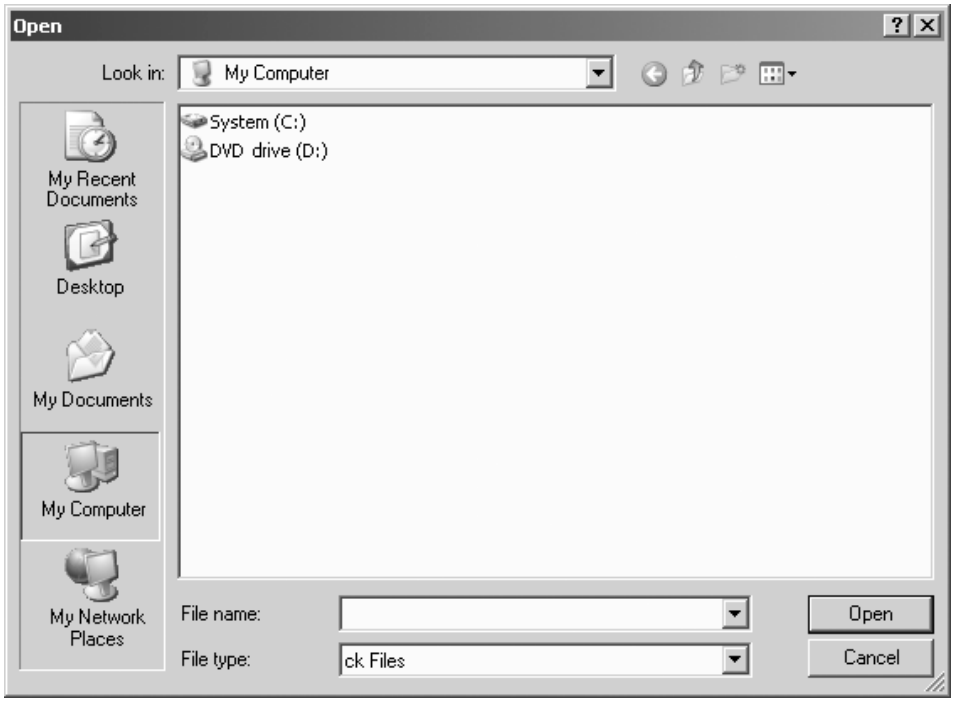
Click the Change... button to the right of the version number of the current firmware to open the Firmware window.



The Firmware window lists the current version of your TDX firmware as well as previous versions of the firmware.



Click the Upload file... button to display the Open window.

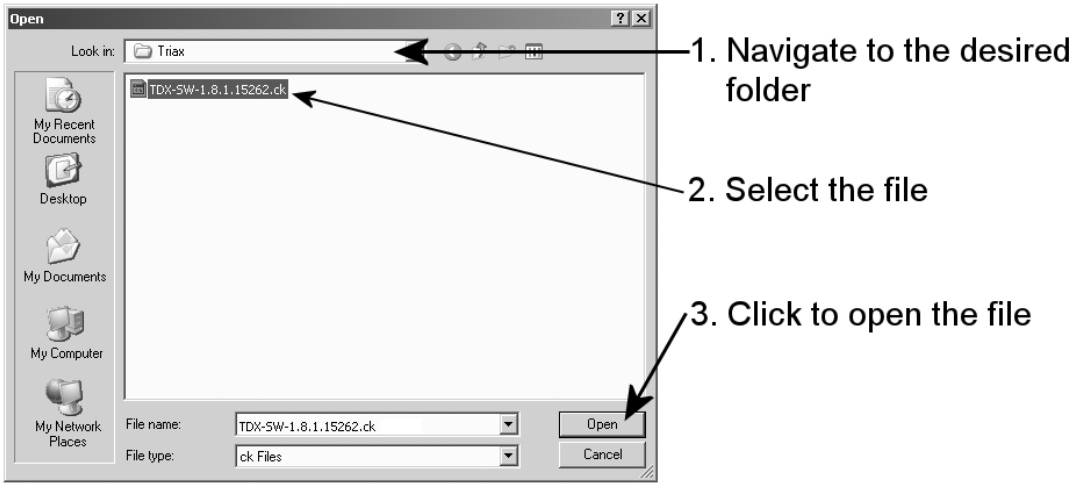


In the Open window navigate to the folder where you saved the update file when you downloaded it from the Triax home page.

Select the file.

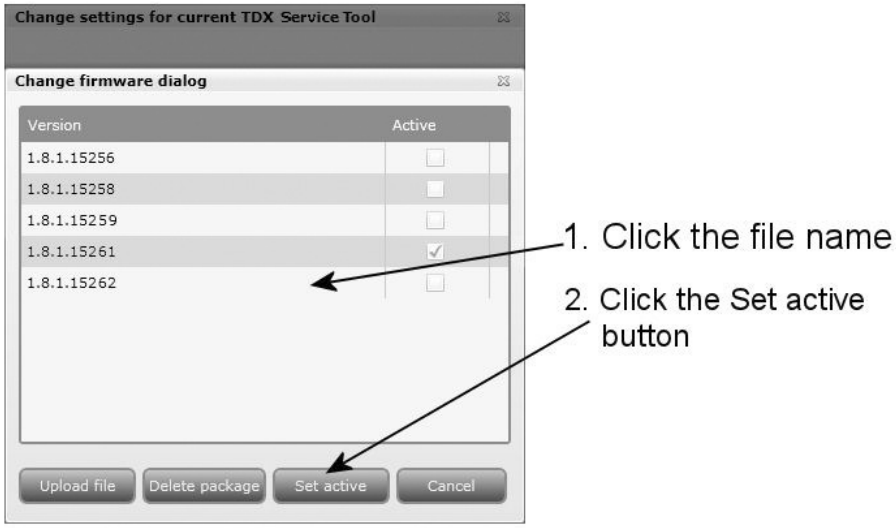
Click the Open button to include the file in the list in the Firmware window

Updating firmware



When you have clicked the Open button you return to the Firmware window. In the Firmware window the new update file is placed at the bottom of the list of updates.

Click the file name to select the file and then click the Set active button to transfer the update to the TDX system.



Clicking the Set active button displays the Firmware update window. In this window you select whether you want to update all firmware, i.e. modules, system controller and user interface, or only firmware that is in need of an update.

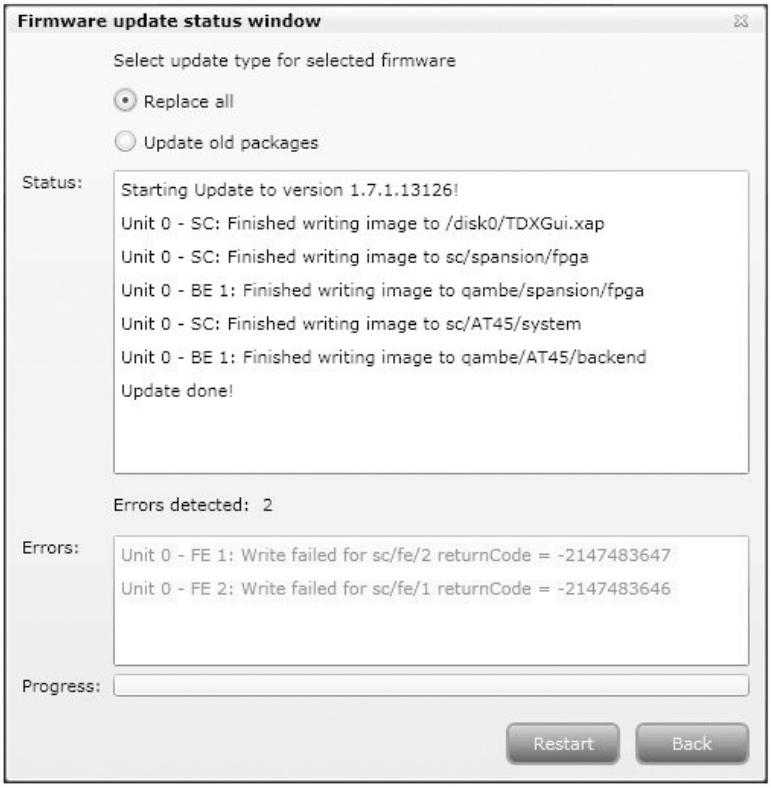
Triax recommend that you use the Replace all option when you want to update your firmware.

You should only use Update old packages if your TDX headend system consists mainly of new modules and a few older modules that might benefit from an update.

1. Click to update all firmware
   or
   click to update only firmware that needs updating

2. Click the Start update button to start updating

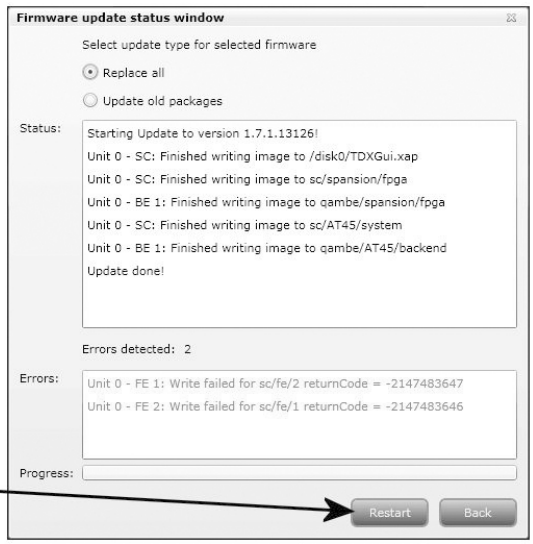
When updating the firmware, the Firmware update status window will display information about status and errors as well as the progress of the update itself. An update will take approximately 5 minutes.


Firmware update status window
Select update type for selected firmware
Replace all
Update old packages
Status:
Starting Update to version 1.7.1.13126!
Unit 0 - SC: Finished writing image to /disk0/TDXGui.xap
Unit 0 - SC: Finished writing image to sc/spansion/fpga
Unit 0 - BE 1: Finished writing image to qambe/spansion/fpga
Unit 0 - SC: Finished writing image to sc/AT45/system
Unit 0 - BE 1: Finished writing image to qambe/AT45/backend
Update done!
Errors detected: 2
Errors:
Unit 0 - FE 1: Write failed for sc/fe/2 returnCode = -2147483647
Unit 0 - FE 2: Write failed for sc/fe/1 returnCode = -2147483646
Progress:
Restart
Back

When you have finished updating the firmware you have to reboot the system by clicking the Restart button in order to make the update effective.

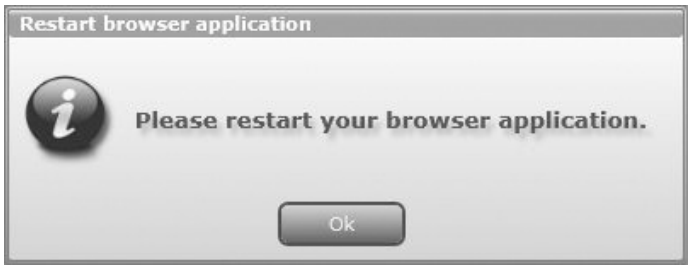
Important When rebooting the TDX headend system the distribution of services to all your end-users will be interrupted for a very short time.

Updating firmware


Firmware update status window
Select update type for selected firmware
Replace all
Update old packages
Status:
Starting Update to version 1.7.1.13126!
Unit 0 - SC: Finished writing image to /disk0/TDXGui.xap
Unit 0 - SC: Finished writing image to sc/spansion/fpga
Unit 0 - BE 1: Finished writing image to qambe/spansion/fpga
Unit 0 - SC: Finished writing image to sc/AT45/system
Unit 0 - BE 1: Finished writing image to qambe/AT45/backend
Update done!
Errors detected: 2
Errors:
Unit 0 - FE 1: Write failed for sc/fe/2 returnCode = -2147483647
Unit 0 - FE 2: Write failed for sc/fe/1 returnCode = -2147483646
Progress:
Restart
Back

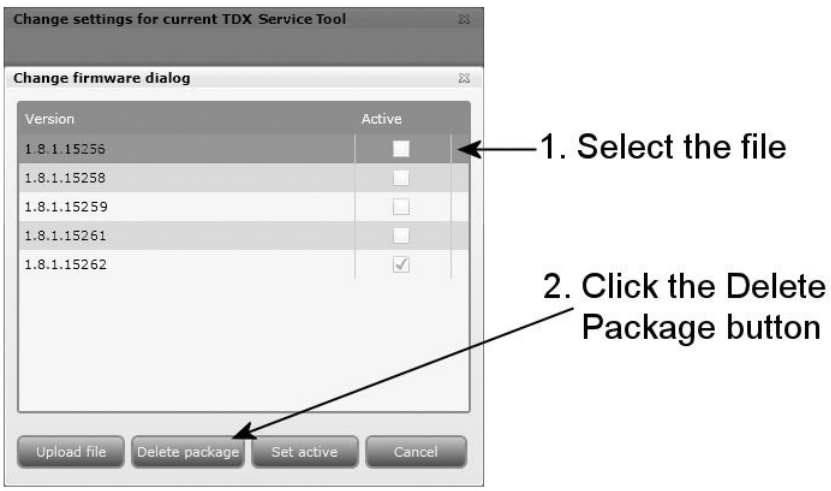
Click the Restart button to reboot the headend system

When you have rebooted the TDX headend system, a message window is displayed asking you to restart your Internet browser.



When you have restarted your browser you have to log into the TDX Service Tool in case you need to make any changes.

If your list of firmware updates needs to be tidied you can remove one or more of the previous firmware updates listed in the Change firmware window. Select the firmware update and click the Delete package button.

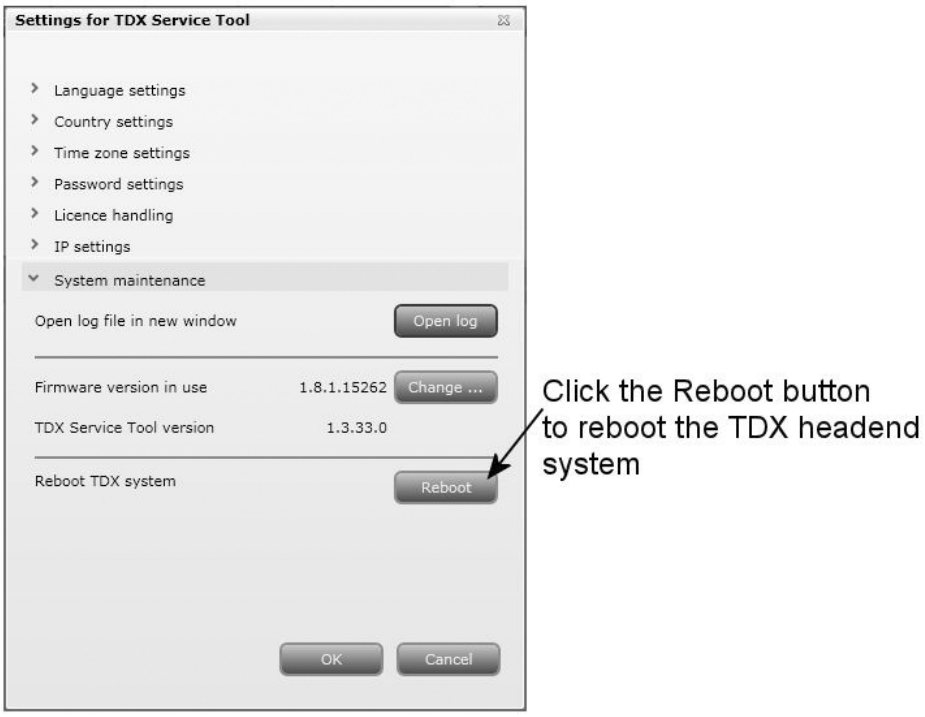


The firmware update is removed from the list.

Reboot system

If you need to switch the TDX headend system off and then immediately start it again you can use the Reboot button in the System maintenance area of the administration window.

Click the Reboot button to reboot the TDX headend system.



Note You can also reboot the TDX headend system by switching off the power manually.

Important When rebooting the TDX headend system or switching off the power the distribution of services to all your end-users will be interrupted.

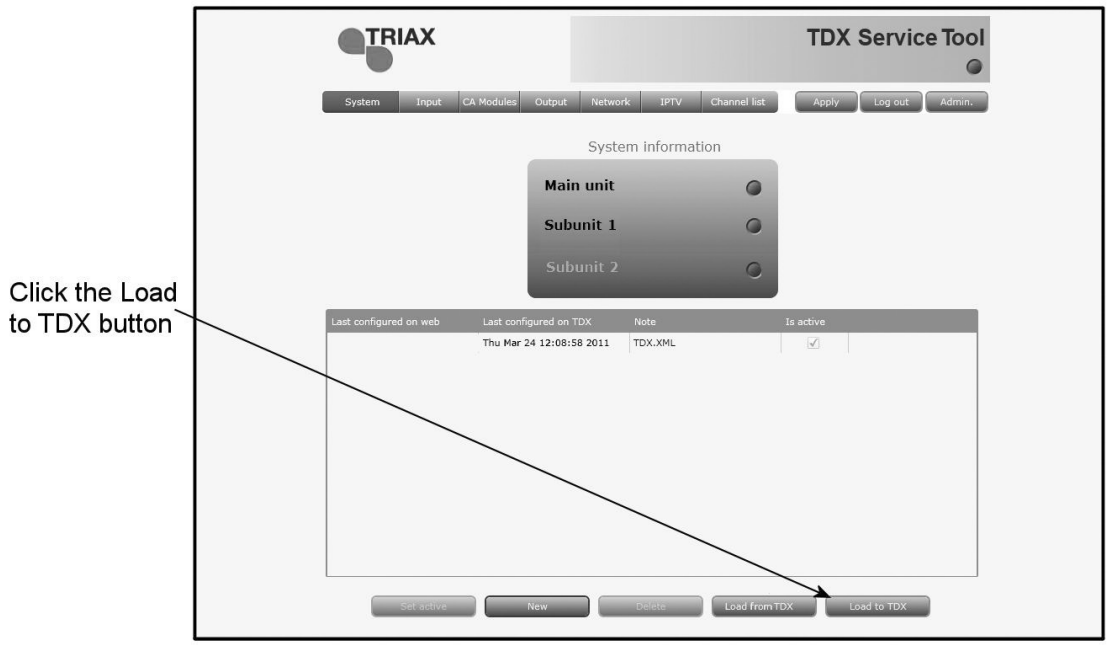
When the TDX system has been rebooted, you close the Administration window and restart your Internet browser.

When you have restarted your browser you have to log into the TDX Service Tool if you need to make further changes.

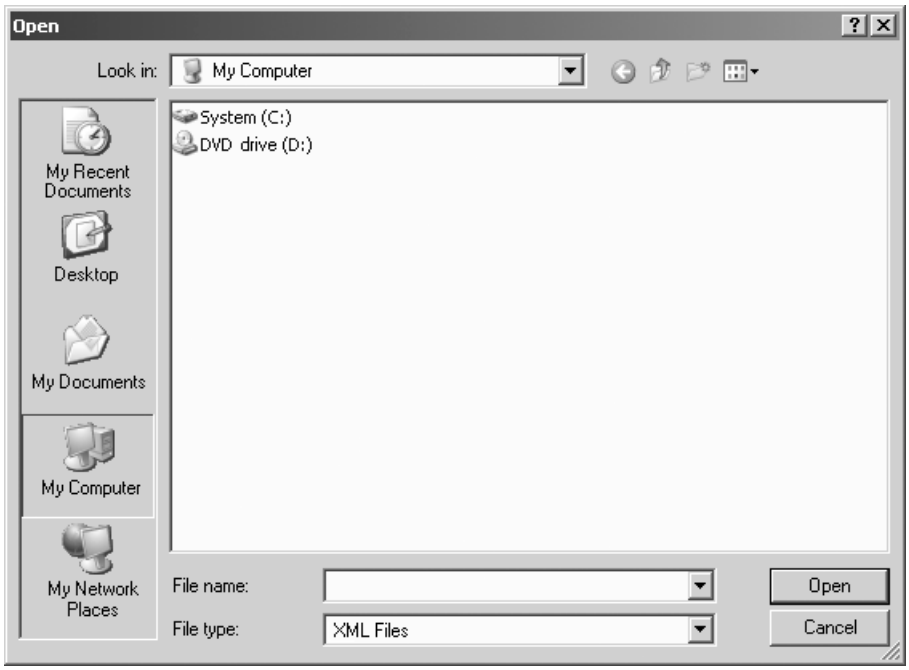
Loading

Load to TDX

In case you want to load a configuration file made using the TDX Configurator from your computer/laptop to your TDX system you have to use the Load to TDX button on the System tab.

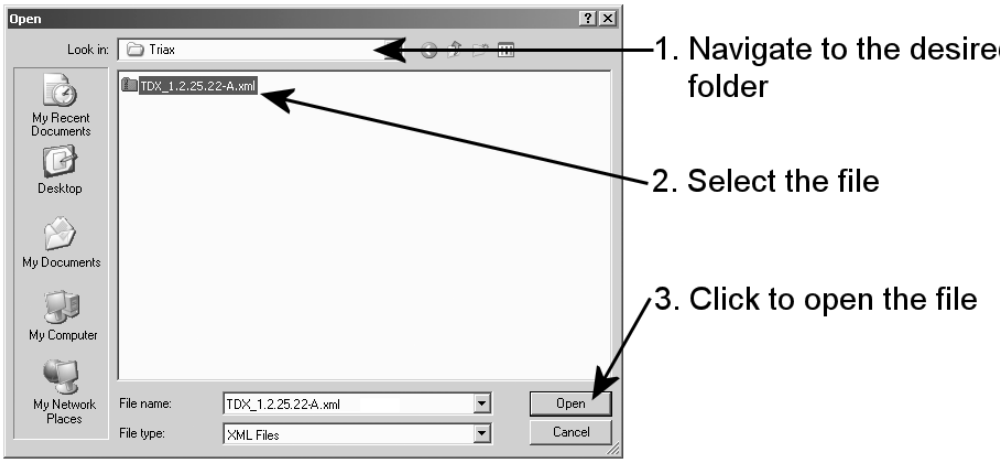


Click the Load to TDX button at the bottom of the System tab to display the Open window.



In the Open window navigate to the folder where you saved the configuration file from the TDX Configurator.

Select the file, then click the Open button to include the file in the configuration list on the System tab.



The configuration file will now be listed in the configuration list area.

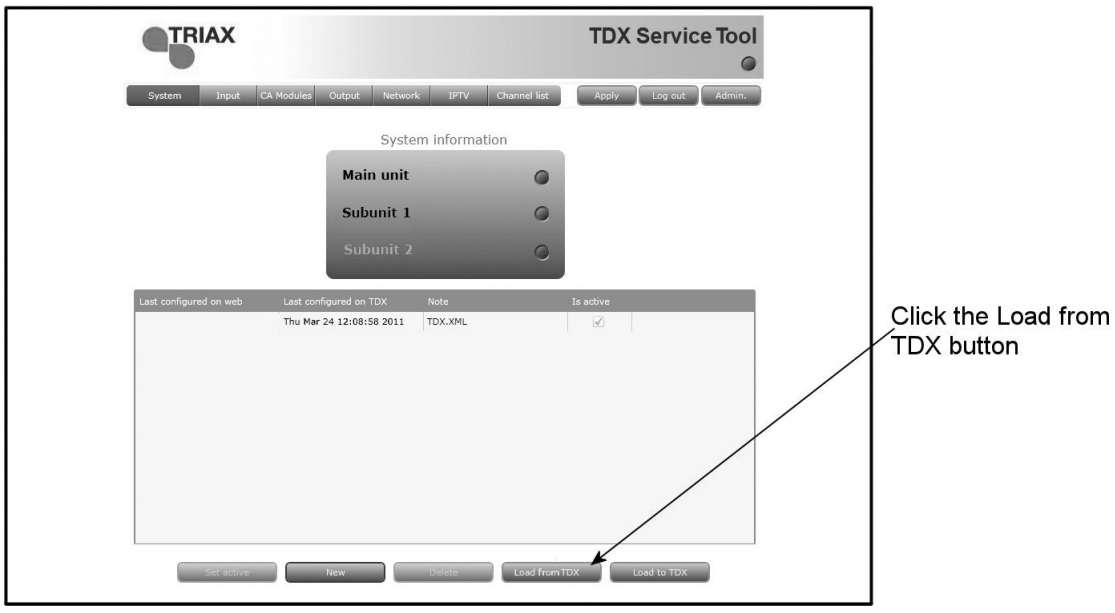
If the name of the new configuration file is identical to the existing configuration file a number in brackets will be added to the name of the new file.

Load from TDX

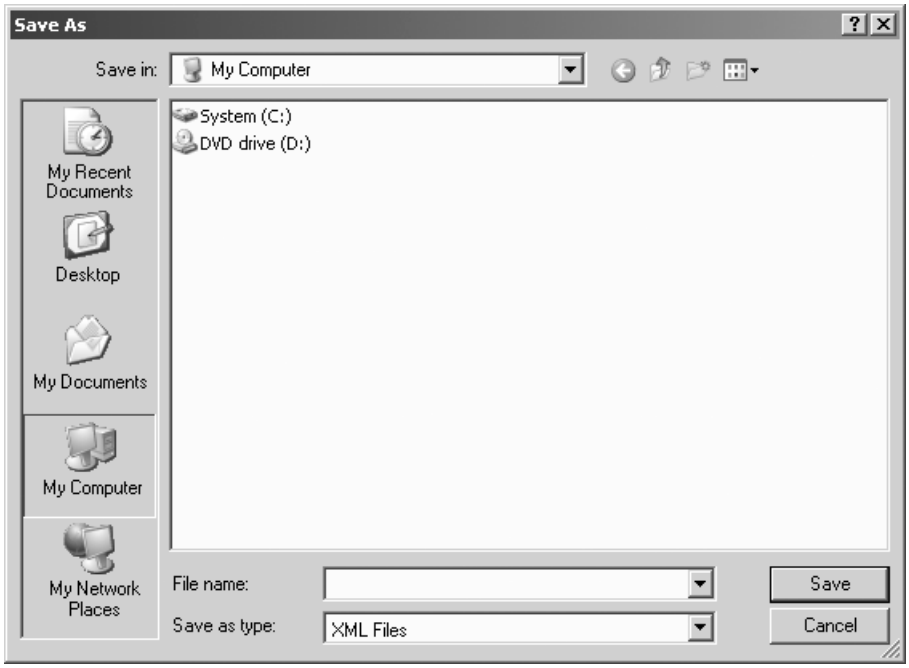
You can save a configuration file from your TDX headend system to your computer/laptop in case you want to use it in another TDX headend system that is identical to the one from which you want to save the configuration file.

If, however, you load a configuration file into a dissimilar TDX system you will have to reconfigure all those modules that deviate from what is specified in the configuration file. All deviating modules will be marked in red.

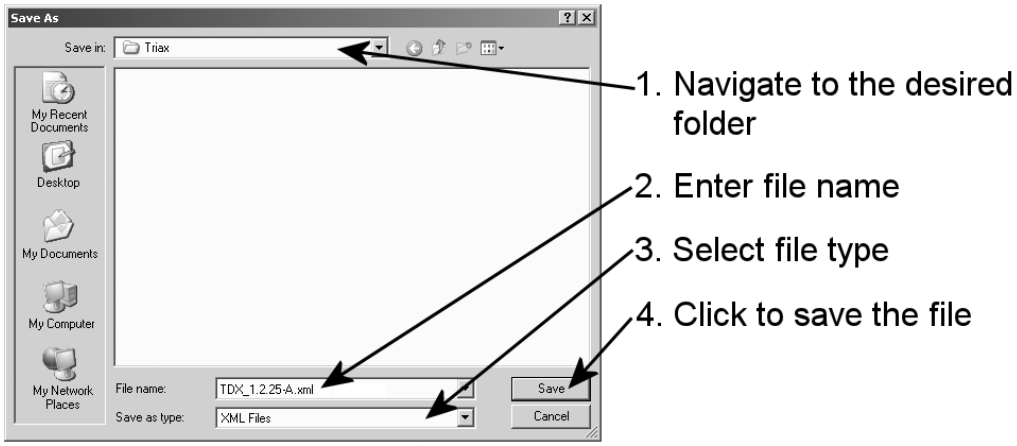
To save a configuration file on your computer/laptop you have to use the Load from TDX button on the System tab.



Click the Load from TDX button at the bottom of the System tab to display the Save As window.



Navigate to the folder where you want to save the configuration file.
Enter the name of the configuration file in the File name field.
Select file type in the File type field.
Click the Save button to save the file.



You return automatically to the System tab when you have saved the configuration file.

Configuration of modules

For information on how to configure the different input and output modules, please read the user guides that are included with the different modules.

Your notes

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